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By David J. Jeremy
HEAD OF HISTORY
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Damming the Flood: British Government Efforts to Check the Outflow of Technicians and Machinery, 1780–1843*

In the waning decades of the age of mercantilism, Great Britain intensified her efforts to keep at home the new industrial technology—technicians and machines—that the inventiveness of her people had produced. From his researches in the records of the Board of Trade, which played a major role in coordinating these efforts, Mr. Jeremy shows that as time wore on the policy of prohibiting emigration and exports became more and more internally contradictory and incapable of enforcement despite great ingenuity on the part of those responsible.

Once British entrepreneurs had demonstrated the superiority of machinery in the manufacture of textiles, in the decades following the inventions of Hargreaves, Arkwright, Crompton, and Cartwright, traditional efforts to contain British technology within the kingdom were intensified. Checks against the outflow of Britain's early industrial technology were applied both by private businessmen and the government. The attitudes of suspicion and secrecy displayed by numerous early-nineteenth-century manufacturing firms are well known. Even more familiar are numerous aspects of the protectionist system

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* I am grateful to the Pasold Research Fund for a grant to work on Board of Trade records at the Public Record Office in summer 1974. I am also indebted to Dr. Charlotte Erickson, Reader in Economic History at the London School of Economics, to Miss Julia de L. Mann, and to my wife Theresa for their keen criticisms of earlier and longer drafts of this article. This research is part of a doctoral thesis being written under Dr. Erickson's supervision, on the transmission of cotton and woolen manufacturing technologies from Britain to the United States, 1790–1840.

The cover illustration, entitled "Wharf Shed of the Trafalgar Dock, Liverpool," shows one of the scenes where Customs officers attempted to prevent the illegal export of machinery before 1843 — Trafalgar Dock being opened in 1836. This print, drawn by Hair and engraved by Jackson, was published in Charles Knight (publisher), *The Land We Live In: a Pictorial and Literary Sketch Book of the British Empire* (4 vols., London, *ca.* 1847–1850). The author is indebted to H.M. Customs & Excise, in the person of Mr. P.J.T. Machin, Deputy Librarian, for providing this print for reproduction, and to Mr. J. Smith of the Liverpool Record Office for identifying its source.

constructed by seventeenth- and eighteenth-century governments. But relatively little has been written on the working of British legislation aimed at the retention of technology.[1] With what consistency and effectiveness were the prohibitive laws applied? When modification came in 1824–1825, what sort of logic freed artisan emigration but continued governmental control over machinery exports? What policies did the Board of Trade follow in licensing machinery for export in the period 1825–1843? How effective were the continuing prohibitions? These are some of the questions that surround the importance of governmental checks on the international movement of technology, especially textile technology, in this critical period.

I. The Period of Maximum Legislative Prohibition, 1780s–1824

In the early 1780s no skilled artisan or manufacturer was legally free to leave Britain or Ireland and enter any foreign country outside the Crown's dominions for the purpose of carrying on his trade. Textile printing workers were even forbidden to leave the British Isles, the implication being that other workers could at least travel within British possessions. It was an offence, moreover, to entice artificers or manufacturers to emigrate to foreign parts. It became illegal to export or to prepare to export to any place outside Britain and Ireland any pre-industrial or industrial textile, metal-working, clock-making, leather-working, paper-making or glass manufacturing equipment. But whereas the laws relating to textile implements and machinery were thoroughly comprehensive, encompassing existing equipment and any invented in the future, those dealing with metal-working tools and utensils were not exhaustive. As we would expect, the penalties for removing the living instruments of trade, the artisans, were much higher than for exporting the machines they were capable of reproducing with their own hands. Emigrants lost their nationality and property and recruiting agents were fined £500 per migrant enticed and received twelve months' imprisonment. In contrast, a £200 fine, forfeiture of equipment and twelve months' imprisonment (or a £500 fine and forfeiture in the case of textile printing tools and machinery) was laid down for the export or attempted export of the hardware. These massive penalties threatened a middle class manufacturer more than an unpropertied artisan.[2]

[1] The major exception is A. E. Musson, "The 'Manchester School' and Exportation of Machinery," *Business History*, XIV (January, 1972), 17-50, which looks at the question from a significant local vantage point.

[2] The textile-related prohibitory statutes were 7 & 8 Wm. 3, c. 20 (1695); 5 Geo. 1, c. 27 (1718); 23 Geo. 2, c. 13 (1749); 14 Geo. 3, c. 71 (1774); 21 Geo. 3, c. 37 (1781); 22 Geo. 3, c. 60 (1782); Ireland 25 Geo. 3, c. 17 (1785); 26 Geo. 3, c. 76 (1786), which repealed clauses in the 1774 and 1781 statutes regarding cheap wood cards.

At least six government departments were involved in enforcing the prohibitive laws. The Foreign Office collected consular reports of artisans domiciled in foreign countries or of machinery illegally exported. The actual policing of the ports and coasts was the province of the Customs Commissioners. The Home Office, to whom the local magistrates reported, intermittently received information about foreign recruiters operating in the British manufacturing districts or artisans who were making arrangements to emigrate. Permissions to emigrate or licenses to export machinery were issued by both the Privy Council and the Treasury, while the former was also capable of issuing orders that could clarify the statutes. The key administrative department was the Board of Trade, as reconstructed in 1786 by William Pitt. It advised the Treasury on Customs policy and on commercial relations with other nations,[3] and it is clear from the Board's Minutes between 1780 and 1843 that it was usually informed or consulted by all the other departments except the Privy Council about infractions, interpretations, or modifications of the prohibitive laws. Thus, records of the Privy Council and the Board of Trade provide a good picture of central government policies, the Privy Council being concerned with these at the highest level, particularly in wartime, and the Board of Trade, with their commercial implications.[4]

After the 1780s, the loss of the American colonies, the prolonged European war with France (1793–1815), and expanding industrialization at home made the problem of emigrant workers critical. Foreign demand for the advanced technology created by Britain's pioneering industrialization grew rapidly, while a wide variety of incentives made hundreds of individual British industrial workers willing to risk the penalties of the prohibitory laws to meet, east and west, the rising demand for their skills.[5] From 1783 to 1812, some

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The metal trades were covered by 25 Geo. 3, c. 67 (1785) and 26 Geo. 3, c. 89 (1786) as well as the 1718 Act. The act 26 Geo. 3, c. 89 included the prohibitions on the export of paper-making, glass blowing and cutting, pottery and leather-working equipment. The act 39 Geo. 3, c. 56 (1799) placed the seducing of colliers to emigrate on the same footing as the seducing of manufacturers.

3 Lucy Brown, *The Board of Trade and the Free Trade Movement, 1830–1842* (Oxford, 1958), 20–21.

4 This article is based on the following collections in the Public Record Office: P.C.1 (Privy Council papers, unbound); P.C.2 (Privy Council Minutes), vols. 128–226 (1782–1844); B.T.1 (Board of Trade In-Letters), letters from the period 1791–1830s; B.T.5 (Board of Trade Minutes), vols. 1–45 (1784–1838); B.T.6 (Board of Trade Miscellanea), vols. 151 and 152 (Machinery Books, 1825–1843). I should like to thank the staff of the North Room and the Rolls Room at the P.R.O. for their cooperation in locating and producing documents.

5 On the emigration of industrial workers to Europe, see W. O. Henderson, *Britain and Industrial Europe, 1750–1870* (3rd ed., Leicester, 1972). On the emigration of industrial workers to the United States, see Mildred Campbell, "English Emigration on the Eve of the American Revolution," *American Historical Review*, LXI (October, 1955), 1–20; Herbert Heaton, "The Industrial Immigrant in the United States, 1783–1812," *Proceedings of the American Philosophical Society*, CV (1951), 519–527; David J. Jeremy, "British Textile Technology Transmission to the United States: the Philadelphia Region Experience, 1770–

100,000 persons left Ulster for the United States, an average of 3,000 a year. Between 1785 and 1800, however, immigration from Ulster was at a rate of 5,000 a year.[6] Incomplete Returns of Enemy Aliens made during the War of 1812 show about 7,500 male Britons resident in the United States in 1812–1814; of this number some 1,300 were workers in the textile or textile-related trades.[7] How aware was the central government of this widespread defiance of its prohibitory laws and what actions did it take to reduce it?

Relatively few consular reports about British artisans working abroad were received by the Board of Trade during the period. This is somewhat surprising because we know that at least one consul, Phineas Bond at Philadelphia, bombarded the Foreign Office with missives on the subject between 1787 and 1805.[8] The matter of emigration was first brought to the Board's attention by a letter dated October 5, 1791 from Sir John Temple, Consul General at New York. It complained of an influx from Ireland. A few months later another communication to the Governor of Lower Canada, suggesting that the Irish migration to Philadelphia, estimated at 1,500 persons a year, might be deflected to Canada, brought no response from the Board of Trade, which, according to the minutes of its meetings, feared that action might "have the appearance of encouraging still further Emigration." Such passivity disappeared when war against France broke out in 1793.[9]

The period of the negotiations leading up to the Peace of Amiens in March 1802 found the subject again under consular consideration. This time there were reports of English artificers in Germany, detained on the Continent by fear of criminal prosecution should they return home. Apart from information on English artificers in Austrian factories in 1805 and a general comment on West of England workers in the United States in 1812, the consular service provided the Board of Trade with very limited indications of the leakage of skill.[10] Even so, the Board was hardly ignorant of the scale of the leakage, since a variety of informal means of communication, such

1820," *Business History Review*, XLVII (Spring, 1973), 24–52; Charlotte Erickson, *Invisible Immigrants. The Adaptation of English and Scottish Immigrants in Nineteenth Century America* (Coral Gables, Fla., 1972), 229–389. Anthony F. C. Wallace and David J. Jeremy, "William Pollard and the Arkwright Patents," *William and Mary Quarterly*, forthcoming.

6 Maldwyn A. Jones, "Ulster Emigration, 1783–1815," in E. R. R. Green, ed., *Essays in Scotch-Irish History* (London, 1969), 46–68.

7 My analysis of U.S., Marshals' Returns of Enemy Aliens, War of 1812 Papers, Record Groups 45 and 59, National Archives, Washington, D.C.

8 Joanne L. Neel, *Phineas Bond. A Study in Anglo-American Relations. 1786–1812* (Philadelphia, 1968), 75–76, 129, 149, 151.

9 B.T. 5/7, p. 310; 8, pp. 102–104.

10 B.T. 5/13, pp. 62–65; 15, p. 292; 21, p. 117.

as manufacturers, customs officials, and informers, could bring news from foreign sources.

Internal reports of specific enticements or migrations were first recorded in 1807 with advance news of the visit of an industrial spy from Russia, Charles Baird (an agent of Sir Charles Gascoyne), who was on his way to obtain information and machinery from the Scottish and Manchester manufacturing districts. Notification came from Joseph Seddon, Chairman of the Society for the General Protection of Trade, a Manchester organization with correspondents in Glasgow. In the years just before and after the depression of 1819, moreover, manufactures in the Midlands metal trades made complaints of workers emigrating.[11] Customs reported goldsmiths leaving for the United States in 1809, and in 1811 they relayed an anonymous report about a Bristol mechanic taking machine-making tools to Falmouth with the intention of embarking for the United States. The same year Customs submitted reports on the emigration of Bristol glass workers and Lancashire cotton workers, and the following year they relayed an anonymous letter about workers from the Birmingham arms manufacturers taking their tools with them to America.[12]

There appear to have been no financial inducements to inform against skilled workers, as there were in the case of emigrant seamen after 1793, and informers sometimes risked intense odium. One tradesman found that he had been named as a prosecution witness after he patriotically informed in 1809 against a mechanic who openly bragged of plans to emigrate. Fearing for his reputation and his business, the tradesman had to make a desperate appeal to the Board of Trade for his discharge from appearing at the Stafford Assizes.[13]

Efforts to Improve Enforcement

Cognizant of this extensive emigration during a period of rapid industrial change and European war, the government was obliged to consider improving the enforcement of the laws. Logically, questions of definitions and interpretation came first. Could any exceptions to the laws governing the emigration of artisans be allowed and, if so, who should legally be permitted to go abroad? A number of limited exceptions were made, although the arguments behind the permissions are rarely recorded. Presumably they were thrashed out

[11] B.T. 5/17, p. 277; 26, p. 419; 27, p. 337; 30, p. 406; 31, p. 436. For this Manchester society, precursor of the Chamber of Commerce, see Arthur Redford, ed., *Manchester Merchants and Foreign Trade, 1794–1858* (Manchester, 1934), 67–68.

[12] B.T. 5/19, p. 64; 21, pp. 70, 364. B.T. 1/76, ff. 29–38.

[13] P.C. 2/137, pp. 468–470. B.T. 1/44, f. 176; 45, f. 292.

orally. For at least one category of artisan — steam engine erectors — the government's hand was forced when an anomalous situation arose. Whereas the prohibition against the emigration of artisans was technically universal, that against the export of machinery was selective. For reasons that are not clear, neither Savery's, Newcomen's nor Watt's steam engine ever came into the machinery clause of the prohibitory statutes. Obviously, if the government permitted a foreign customer to buy a British steam engine, it could hardly deny him the services of British millwrights and mechanics to set it up. The Privy Council, which apparently controlled the licensing of emigrant artisans during the French Wars, allowed two erectors to set up three steam engines at St. Petersburg in 1806. Later that summer Samuel Davies was licensed to set up a steam engine at New Orleans, while three other men were permitted to sail to Sweden for the same purpose. Between 1815 and 1824 the Board of Trade approved only three applications for steam engine erectors to emigrate. Presumably most of those who went abroad did so without government licenses.[14]

After it was decided in 1797 to allow the export of mint machinery, and especially after 1799 when Matthew Boulton obtained an act of Parliament to send both coining machinery and millwrights to Russia, millwrights were often released to complete similar foreign orders. Assuming that the same principle could cover the printing of bank notes, the Swedish government obtained Privy Council approval in 1806 for a person to go to Sweden and set up a paper mill for bank-note-paper making.[15] During the French Wars, the Privy Council received applications from the Swedish government for the release of four sinkers to help open up some new coal mines, and two manufacturers of farming implements. All were allowed abroad. It seems likely that political considerations played a part, but evidence is lacking.[16]

No artisans at all were licensed by the Privy Council to emigrate between 1814 and 1824. And in the period 1780–1824, apart from the three permits to steam engine erectors, the Board of Trade allowed only one skilled worker, Richard Smith, to go abroad. Halted at the Liverpool Customs in 1817, he admitted that he had once been a master spinner, was presently assistant to a Staffordshire land surveyor, and was going to Philadelphia to recover unspecified property taken thence by James Slater, late of Cheadle.[17] Only one application (this to the Board of Trade) for permission for artisans to emi-

[14] P.C. 2/169, p. 629; 170, pp. 429, 674. B.T. 5/25, p. 337; 26, p. 140.
[15] B.T. 5/10, pp. 435–437. P.C. 2/160, p. 384; 170, pp. 543–544.
[16] P.C. 2/164, pp. 128, 177; 175, p. 67.
[17] P.C. 2/205 pp. 420–421. B.T. 1/119, ff. 8–10. B.T. 5/26, p. 140.

grate was rejected before 1824. The Turkish government was emphatically refused (in 1802) permission to hire British artisans. But these were cannon founders, and Britain was still at war against France.[18]

One other important question arose on the interpretation of the laws regarding artisans. Did the definition of artificer and manufacturer cover the non-manufacturing trades? In wartime the old prohibitive laws might be interpreted more rigorously than in peacetime, and only the positively unskilled be let through Customs. Perhaps for this reason the issue did not reach the central government until 1817. That year the Liverpool Customs officers squabbled with the Liverpool magistrates over the interpretation of the law on this point. The Liverpool Collector wrote to the Customs Commissioners asking, "whether common workmen, such as shipwrights, coopers, ropers, joiners or house carpenters, brick makers &c. [are covered by the laws]." The Board of Trade wrote to the Customs Secretary asking what the established practice had been, and to the Attorney General and Solicitor General for their opinion of the law, but Board of Trade minutes record no settlement.[19]

The greatest loophole in the prohibitory laws related to the problem of detection. The Chairman of the Customs readily acknowledged in 1824 that his officers had no way of identifying a skilled worker.[20] Even if the embarked passengers were mustered, as was possible under the 1795 proclamation or the 1803 Passenger Act, determined artisans would willingly perjure themselves to escape abroad.[21] Some joined ships after they had been cleared from English ports. In 1807, it was claimed, "emigrant artists & manufacturers" took small boats out to ocean-going vessels cleared from Liverpool "on their passage along the Cheshire shore." Revenue cutters or Royal Navy vessels might occasionally intercept these emigrants, but the problem of identification remained.[22]

Despite the odds against success, the Privy Council determined to

[18] B.T. 5/13, pp. 114–115.

[19] B.T. 5/26, p. 261. B.T. 1/120, ff. 90–95.

[20] G.B. *Parl. Papers (Commons)*, 1824 (51), V, "Six Reports from the Select Committee on Artizans and Machinery," 50.

[21] Few cases of artisans who perjured themselves are documented. One of them, Samuel Mearbeck, later recalled his questioning by Boston Customs officers who wondered how he had managed to escape from England with his cutlery tools: "They asked how did I to get away from England if I did not take a false oath. I told them what Butler says: 'He that imposes an oath makes it, not he who for convenience takes it.' They laughed at me and said that would do and desired me to tell it them again and they wrote it down."

Samuel Mearbeck to his mother, from Boston, Mass., January 1, 1817, Mearbeck Letters, typescript copies made from those in Sheffield Central Reference Library and kindly brought to my notice by Dr. Charlotte Erickson. The quotation is from Samuel Butler's seventeenth-century satirical poem, *Hudibras*.

[22] B.T. 1/35, ff. 192–193.

apply the laws more effectively in the early years of the wars against France. An Order in Council of April 8, 1795 forbade foreign vessels to sail without their captains first submitting to the port officer a list of passengers, specifying names, ages, occupations, and nationalities. Any British artificers, manufacturers, or seamen discovered were to be arrested. This new measure against the emigration of artisans apparently owed much to the indefatigable reporting of Phineas Bond, Consul General at Philadelphia. Doubts arose over its legality, but Grenville and the President of the Board of Trade were satisfied and made the order.[23]

Although the Customs officers implemented this Order so well that at first few foreign vessels were cleared at all and the Privy Council began receiving complaints from masters, the problem of accurate identification defeated them. The obvious badge of the artisan was his bag of tools, but this he generally concealed carefully, or sent by a separate ship, or never took at all. Otherwise the indiscreet possession of some kind of documentation might announce the artisan. It was often only by accident that true identities were revealed, as with David Wooding, a Manchester spinner who, in March 1811, boarded the ship *Union* at Liverpool, bound for New York. During the Customs mustering of passengers, his marriage certificate was found in his sea chest and letters of introduction to a Philadelphia inhabitant in his pocket. Wooding, haled before the magistrates, betrayed his father-in-law, who was also on the *Union*, and the pair were committed for trial at the next Lancaster Assizes.

James Kipping, the Surveyor on Special Service, suggested, after his detection of Wooding, another way of solving the identification dilemma. Wooding's marriage certificate and the testimony of Manchester magistrates had given him away. Why not require all aspiring emigrants to produce a certificate, attested by their local magistrate or parish officer, "stating that in [his or their] opinion the Parties were not prohibited emigrants." Essentially this meant extending and reinvigorating the old Settlement and Removal Laws to cover the skilled as well as the poor, emulating the Prussian (1731) and French (1803) workers' passport laws. The Board of Trade received this proposal in May 1813, some two years after the Liverpool officers wrote to their superiors in London, and silently passed the papers to the Privy Council, which was expected to advise the Treasury. No more was heard of the plan. The bureaucratic procrastination, countenanced perhaps because of the War of 1812 (which tem-

[23] P.C. 2/137, pp. 468–470; 142, pp. 361–362. P.C. 1/25, A48 and A49. Neel, *Phineas Bond*, 75, 149.

porarily closed emigration to the United States), suggests an unwillingness to pursue protectionist policies to their logical conclusion.[24]

While improving the means of detection, the authorities also tried the tactics of deterrence. Prosecutions followed arrests so consistently for English artificers on the Continent, as late as the 1820s, that they feared returning home to meet fines and imprisonment. Fear of loss of citizenship was the major legal deterrent. If the country was at war, moreover, some emigrants would be open to the charge of treason.[25] But another type of legislation supplemented the prohibitory laws: the Passenger Act of 1803, patterned on Phineas Bond's proposals. The purpose of the first Act is disputed, but recent evidence seems to favor a Machiavellian interpretation. In limiting the number of passengers that British vessels could carry to one for every two tons of a ship's unladen capacity, the Act not only relieved the conditions of transatlantic travel but also struck a blow at emigrant traffic in general, and thereby also at emigrant artisans. According to Castlereagh (President of the Board of Control in 1803) in an admission to John Quincy Adams, this was the real purpose of the Act.[26]

In attempting to hold back the artisan from emigration, the central government adopted no wide-sweeping measures. Owing perhaps to contemporary ideas on the free circulation of labor, it opposed increasing legislative restrictions (like the Settlement laws) on labor migration. Instead, it limited itself to sniping actions against individuals. When informed, the Board of Trade could alert Customs of impending depredations of foreign recruiters, like those of Baird in 1807 and Edward Thomas in 1819 (the latter was returning to collect artificers to set up a steam engine factory near Elberfeldt). If recruiters were already active in manufacturing districts, or artisans were known to be preparing to emigrate, the Home Office could send out Bow Street runners (then the country's only police force) to bring miscreants before magistrates, as in the case of James Patterson in 1809. But the scale on which those procedures took place was insignificant, considering the size of the problem.[27]

[24] For passport systems, see Arthur Redford, *Labour Migration in England, 1800–1850* (2nd ed. Manchester, 1964), 87–88. B.T. 1/76, ff. 33–40. B.T. 5/22, p. 276.

[25] See P.C. 2/159, p. 254; 180, pp. 539–540 and B.T. 5/19, pp. 55–56 for prosecutions. G.B., *Parl. Papers (Commons)*, 1824 (51), V, 569.

[26] Oliver MacDonagh, *A Pattern of Government Growth. The Passenger Acts and Their Enforcement, 1800–1860* (London, 1961), 57–58. This may be compared with Jones, "Ulster Emigration," 57–58 and Neel, *Phineas Bond*, 87, 149–150.

[27] Redford, *Labour Migration* pp. 81–84. B.T. 5/17, p. 277; 26, p. 419; 27, p. 329. B.T. 1/44. f. 176.

Efforts to Reverse the Flow of Emigrant Artisans

Since the root of the matter was a complex of changing economic and social conditions, it was hardly possible for an enlightened and constitutional government to take adequate preventive steps against emigration. Indicative of the very limited possibilities for collective measures was the Board of Trade's reaction to the unemployment and emigration of the Birmingham arms manufacturers who, in 1812, were reported to be taking their tools with them to America. It suggested that the Board of Ordnance be asked to find work contracts for the 200 unemployed manufacturers. This was the solitary occasion in the records examined, when the central government tackled the emigration of artisans with a sound preventive economic measure, impelled by wartime conditions when arms manufacturers would plainly claim much greater government attention than handloom weavers.[28]

Apart from improved detection, deterrence, or prevention, the only other avenue in implementing the laws was to attempt a reversal of the migrational flow. Several times this tactic was tried or considered during the period of the French Wars. But if the law penalized the emigrant artisan, how could he be expected to return willingly to Britain? Either some clauses of the prohibitory laws must be set aside or else even more drastic and effective penalties must be involved to dislodge the fugitive artisan from his foreign abode. The former possibility was clearly more practicable. In 1797 Phineas Bond recommended a compensatory payment to returning artisan James Douglas (sometimes named as John or William), a native of Dumfriesshire, for his invention of three labor-saving machines (a cloth shearing frame, a sailcloth powerloom, and a brickmaking machine). Douglas had emigrated to the United States in 1792 or 1793. Ironically, after his return Douglas was recruited by Chaptal, Napoleon's Minister of the Interior and eminent chemist, and introduced the latest British carding and spinning machinery to the French woolen industry. The relevant point is that the Board of Trade acted on Douglas's memorial and Bond's covering letter with a surprising recommendation to the Treasury: that Douglas be rewarded not for his inventions, but "for his expences in returning to this country, by the recommendation of His Majesty's Minister and Consul at Philadelphia." [29]

[28] B.T. 5/21, pp. 221, 275, 364.
[29] Henderson, *Britain and Industrial Europe*, 30–31; G.B., *Parl. Papers (Commons)*, 1841

Twice again this kind of waiving of the law was considered by the Board of Trade. A fortnight before the Treaty of Amiens was signed on March 27, 1802, a number of letters from Continental sources indicating the activities of English mechanics in Germany and the Low Countries prompted the Board to recommend that a bill be proposed to Parliament offering amnesty to returning workers. Artisans availing themselves of the amnesty would escape the penalties of the prohibitory law 5 Geo. 1, c. 27 and the Traitorous Correspondence Act, 33 Geo. 3, c. 27, provided they came back within a fixed period and had not emigrated for treasonable or criminal purposes. At the same time the Board advised the Foreign Secretary to initiate the process of artisan re-emigration. British ministers and consuls, having located British manufacturers and artificers in their districts, were to be instructed "to warn such Artificers to return into this Kingdom within six months according to the provisions of the said Act of 5 Geo. 1 cap. 27." To facilitate the exiles' return, the Postmaster General was to instruct masters of Post Office packets to grant any artificers holding consular certificates (of evidence of identity) a free passage to Britain. Presumably this amnesty scheme derived from the impending reopening of the Continent under the Amiens Treaty. The proposed bill never reached the statute book. And though the instructions went to the Postmaster General, it is difficult to see how he could carry them through without the complementary act of Parliament. Still, the Board did not abandon the possibilities of attracting artisans back to Britain. In September 1805 it considered John Rae's report on the activities of British artificers in developing the cotton manufacturers of Austria and his plan to offer financial inducements to these machine builders and manufacturers to return home. But again, the proposals produced no response because two months later, after the battles of Ulm and Austerlitz, Napoleon for the third time in ten years overran Austria and removed her from the Third Coalition. Nevertheless in 1824 Sir Charles Stuart was reported to have sent many artisans back to England from the Continent, paying their fares for them.[30]

If re-emigration could not be induced by this method, the only alternative was to strengthen the sanctions against remaining in a foreign country. Loss of citizenship could be a serious matter, especially for those who migrated to Europe. As the 1793 proclamation

(201), VII, "First Report from the Select Committee Appointed to Inquire into the Operation of the Existing Laws Affecting the Export of Machinery," 64. B.T. 5/10, pp. 427-429. B.T. 1/15, ff. 120–126.

[30] B.T. 5/13, pp. 62–65; 15, pp. 292–293, 322. G.B., *Parl. Papers (Commons)* 1824 (51), V, 581.

reminded seamen, if they lost their British nationality and fell into the hands of Algerine corsairs or Turks, they would not be "reclaimed" as British subjects. But only if the migrant happened to be captured while crossing the Mediterranean or while in the Eastern Atlantic when the Straits of Gibraltar were open to Algerian cruisers, was this a remotely likely, and very unpleasant, fate. The fortunes of war (as the foundation of a royal woolen factory at Seville in 1781 by English prisoners of war illustrates) increased the possibility of this sort of eventuality. Rae believed that if refusal to return home was elevated to a felonious offence some emigrants would come back from Europe.[31]

Migration to the United States was not susceptible to this kind of penalty. British immigrants could become naturalized Americans even though this required five years' residence, after Jefferson secured repeal of the Federalists' Naturalization Act of 1798. About this the British government could do little, until war broke out in 1812 and erstwhile British citizens served on the American side. With its forces invading America, the British government was in a position to flush out Britons who had become naturalized Americans, especially since British law at this time generally rejected foreign naturalizations and recognized only "natural Allegiance" or citizenship endowed by birth. Thus the royal proclamation of July 23, 1814 gave British citizens serving in the American forces four months to withdraw or else be deemed guilty of high treason, which no doubt tested the motivations and adaptation of some immigrant workers.[32]

Prohibiting the Export of Machines

The ease with which Continental and, despite the greater distance involved, American manufacturers could obtain British machinery is well known. Until the 1820s, during this early non-verbal period before the new skills and designs were reduced to writing and drawings, the role of the artisan in the diffusion of technology seems to have been more important than that of machines, models, or specifications. Even so there was a sizeable traffic of undetermined volume in the export of tools, machinery, parts, and plans. In 1794 the Wiltshire clothier, Henry Wansey, found all the most up-to-date British cotton and woolen equipment in operation in the United

[31] P.C. 2/137, pp. 468–470. H. G. Barnby, *The Prisoners of Algiers. An Account of the Forgotten American-Algerian War, 1785–1797* (London, 1966), 103–106. J. Clayburn La Force, "Technological Diffusion in the 18th Century: the Spanish Textile Industry," *Technology and Culture*, V (Summer, 1964), 330.

[32] P.C. 2/196, pp. 36–38.

States. Much was surely constructed in America, but some vital components, drawings, and specifications were clearly smuggled from Britain. Likewise the Continental industries obtained Britain's new technologies. At first, equipment was mostly accompanied by artisans. When overseas reservoirs of skill had developed, the foreign demand for British machinery could be sustained by three factors: (1) its cost competitiveness, for even with the charges involved in smuggling, British equipment could be cheaper than foreign-built machinery; (2) its superior construction, though the durable construction of British-built machines could retard innovation; and (3) in many cases, its improved or new design. The continuing movement of British machinery abroad was readily acknowledged when the Parliamentary Committee investigated the problem in 1824.[33]

The Board of Trade minutes show that the first report of unlawful machinery exports was made in 1799. Then the Home Secretary relayed to the Board a memorial from "The Committee of Merchants and Manufacturers of Manchester and the neighbourhood for the general protection of trade" complaining that its unrestricted export to Ireland allowed British machinery to be conveyed to foreign rivals. The problem was solved administratively, if not in reality, by the Act of Union the next year. In 1807 the same body of Manchester merchants and manufacturers notified the Board of the impending arrival of Charles Baird on a machine-collecting assignment for the Russian government. That year Customs reported its first seizure of illegally exported machinery, though significant quantities were escaping undetected through the Customs net. The central government seems to have been apprised of only a fraction of the leakage.[34]

Whereas before 1807 there was only one report of unlawful machinery exports, between 1807 and 1811 a handful of complaints came to the Board about workers emigrating and taking their tools with them to the United States — London goldbeaters, Birmingham arms makers, and a Bristol textile machinery maker. This was the period of the Embargo that hurt America's foreign trade but diverted capital and labor into the manufacturing sector of the economy. New industrial opportunities in America naturally offered fresh migrational "pulls." It was also the period of Napoleon's Continental system, which theoretically closed Europe to British trade and traffic.

[33] David J. Jeremy, ed., *Henry Wansey and His American Journal, 1794* (Philadelphia, 1970), *passim*; *idem*, "British Textile Technology Transmission to the United States," 24–52. Henderson, *Britain and Industrial Europe*, *passim*. G.B., *Parl. Papers (Commons)*, 1824 (51), V, 1, 2, 3, 6, 9, 10, 13, 36, for example.

[34] B.T. 5/11 pp. 367–368; 17, pp. 277, 302–303.

After Waterloo the two or three complaints about unlawful export of machinery concerned Italy and France: a consignment of paper-making and cotton-stocking machinery reached Naples in 1816, and in 1819 English manufacturers were sending models of machinery to France.[35]

As with artisan emigration, reports on the export of machinery reached the Board of Trade through the Consular system, and domestically through informers, Customs, and manufacturers or masters. Anonymous tip-offs were an important source of "counter-intelligence." One informer, identifying himself as "Bill," in 1822 submitted a memorial that detailed a smuggling route to the Continent: "the means practiced for conveying off machinery is by concealing it in different Packages and sending them to Rye and other places from whence they are taken to the Continent by Fishermen." When, in 1824, leading Custom officers had the opportunity to summarize their experience of the problem, they observed that they had insufficient staff for searching; that wharf facilities for unpacking and inspecting items for export were usually lacking; that large cargoes could not be closely examined; and that, when parts of different machines were mixed up and packed together, it was impossible for Customs searchers to identify the original equipment. Manufacturers, on the other hand, when complaining to the Board of Trade, assumed that the leakage of hardware was capable of being stopped, and that an arrest could be made simply by notifying a magistrate of a suspected intention to export, but this the law did not allow. Trade associations at Manchester in 1783 and Birmingham in 1799 expressed strong feelings for the more effective enforcement of the prohibitions on machinery export. The 1806 Report of the Parliamentary Committee on the Woolen Manufacture, reflecting for the most part the opinions of the Yorkshire manufacturers, likewise expressed a protectionist verdict on the laws, as being "founded in sound policy."[36] But, in spite of manufacturers' and Customs' complaints, the Board shied away from tougher statutory measures. Instead it simply urged Customs officers to greater vigilance, and the Board and the Privy Council allowed a series of relaxations of enforcement, some serving the manufacturing interest.

35 B.T. 5/18, pp. 138, 159, 160, 205; 21, pp. 70–71, 364; 25, p. 153; 28, p. 136.

36 B.T. 1/169, bundle 26. G.B. *Parl. Papers (Commons)*, 1824 (51), V, 49–59. Redford, ed., *Manchester Merchants*, 7, 67–68. G.B., *Parl. Papers (Commons)*, 1806 (268), III, "Minutes of Evidence Taken before the Committee Appointed to Consider the State of the Woollen Manufacture," 4–5; Julia de L. Mann, *The Cloth Industry in the West of England from 1640 to 1880* (Oxford, 1971), 147.

Introductions of Exemptions

Simple pre-industrial "tools and implements of a plain and simple construction" were virtually removed from the terms of the prohibitory laws in 1785. Under this principle the Privy Council permitted the export of implements for the construction of canals to Sweden (1809) and, in 1811, allowed Messrs. Burley & Co. to despatch "a spinning wheel made of mahogany, ebony &c" to Malta, "the said wheel being intended to be sent to Egypt as a present to a female at Cairo." Similarly the Board of Trade allowed the export of farming utensils (including hemp implements and a threshing machine) to Quebec (1805) and permitted a wife in England to send cutlery tools to her husband in Canada (1819). Perhaps it was under the same principle that the export of hand calico printing blocks to Calcutta was permitted in 1824.[37]

The second protectionist exemption, established in 1797, was in the case of equipment used to process raw materials needed for the British cotton manufactures. The Privy Council pronounced that the prohibitory laws "[were] not intended to prevent the exportation of machines [in this case cotton packing presses], the object of which is to facilitate & increase the importation of the raw material into this Kingdom." Between 1797 and 1806 the Privy Council passed five applications to export cotton packing or bailing presses, to the West Indies, the United States, the East Indies, and India. The Board of Trade passed four more between 1814 and 1824, to Surinam and Egypt, among other places. Because of this economically prudent policy, mechanized cotton packaging opened the distribution bottleneck between Whitney's recently-patented American cotton gin (1794) at the harvesting level and the new manufacturing technology at the processing stages.

Under the 1797 decision the Privy Council made other exceptions, releasing a skin-packing press to Philadelphia in 1801, a cotton gin to New Orleans in 1806, and a wool press to Lisbon in 1810. The Board, most active after the French Wars, passed a wool press to Bilbao, a cotton gin to Valparaiso or Lima, and four almond presses to Bengal. Primary processing equipment could also support traditional handicraft manufactures in the colonies, and possibly this explains why cotton printing machinery went to India under license.[38]

[37] P.C. 2/130, p. 313; 184, p. 31; 218 (for Oct. 5, 1811). B.T. 5/15, p. 282; 28, p. 143; 32, pp. 152, 342.

[38] The sources for the preceding two paragraphs are P.C. 2/147, pp. 572–573; 148, pp.

Another exceptional case was created when the Board of Trade in 1797 advised the Treasury on the export of steel rollers for the U.S. Mint at Philadelphia. Since mint machinery would not compete with British manufactures, the Board urged the Treasury to allow its export. This led to further exports of mint machinery, mostly Matthew Boulton's, to Russia (confirmed by act of Parliament in 1799), Denmark (1804), and America again (1816).[39]

The last excepted type of equipment was the steam engine. In 1786 the Privy Council refused to prevent three "Fire Engines" from going to Spain, although allegedly "extremely injurious to the copper mines of this Kingdom," on the grounds that Parliament alone could prohibit machinery exports not covered by the law. Other permissions followed. Under Privy Council license Hugh and Robert Baird sent two to St. Petersburg in 1802; Robert Francis shipped one to New York in 1805; Baron Henry de Bode despatched three more to St. Petersburg in 1806; Messrs. Mann & Barnard exported a 14 h.p. one to New Orleans to drive a saw mill in 1806; and two more went to Lima in 1814 and 1816. Numbers were regularly exported by Boulton & Watt during the French Wars. Thereafter the Board of Trade licensed three for export to Germany and Austria.[40]

By the early 1820s imperial preference was the other ground on which central government allowed exemptions from the prohibitions. Whereas Customs were ordered to seize iron-working rollers destined for France, Alexander Galloway was licensed to export copper-working rollers to Egypt, and Peter Fary was even permitted "to carry machinery for spinning stocking worsted to Van Dieman's Land" (Tasmania).[41]

In the most significant area of machine designs, government found it quite impossible to apply the letter of the law. First laid under the prohibitions in 1781, machine plans became increasingly available to foreigners by three routes. Of private communications, we have only traces of foreign visitors and little idea of the extent to which technology transfer occurred through correspondence. Published drawings and sketchy specifications came with the appearance of Rees' *Cyclopaedia* (45 vols., London, 1802–1820) and operating rules with Montgomery's *Carding and Spinning Master's Assistant* (Glasgow, 1832).[42] Censorship could check the publication

432–433; 153, pp. 529, 539; 158, p. 112; 170, pp. 70–71; 189, p. 205. B.T. 5/11 pp. 210–212; 22, p. 449; 25, p. 378; 26, pp. 10, 260; 29, p. 80; 32, p. 15; 33, p. 43.

[39] B.T. 5/10, pp. 435–438; 11, pp. 3–7; 14, p. 165; 25, p. 25. 39 Geo. 3, c. 96 (1799).

[40] P.C. 2/131, p. 528; 161, p. 112; 167, p. 178; 169, p. 629; 170, pp. 70–71; 173, p. 233; 174, p. 252; 205, pp. 420–421. B.T. 5/24, p. 155; 25, pp. 24–25, 337.

[41] B.T. 5/29, p. 304; 32, pp. 2, 15, 345–346; 33, pp. 24–25, 30.

[42] Jeremy, "British Textile Technology Transmission to the United States," 37–42.

of technical information, but this the government left to the discretion of individual authors. Patents of invention, the third source of machine plans for foreigners, offered government its greatest opportunity to enforce the law on machine designs. But secret patents, not uncommon in contemporary France, were scarcely allowed in Britain. Of the 5,000 patents enrolled before 1824, only two were secret, i.e. placed under covers, sealed and lodged with the Lord Chancellor "in order to prevent the invention getting to foreign countries," a procedure involving statutory approval.[43] Ironically, both patents, for textile processes, turned out to be technological failures. Instead, British patents were loosely guarded from prying foreigners by a chaotic search system evolved over centuries of accretion in patent procedures. This was supplemented by the inadequacy of published patents, which were often abridged and haphazardly chosen for inclusion in trade journals, where only a quarter of the enrolled patents could be found. But all this would not prove insuperable to the persistent investigator, who, at the cost of time and money, could legally obtain accurate copies of any British patent, copies which might then go abroad.

Only twice, between 1785 and 1824, did the Board of Trade recommend any statutory alteration of the prohibitions on machinery exports. In 1785–1786 it heeded the pleas of wool card manufacturers from Bocking and Colchester in Essex and Southwark, London, for permission to export their products to the United States. They argued that Dutch cards rivalled English ones, that hogsheads of Irish cards were going to America, and that Americans had John Kay's card–clothing engines at Boston, leaving only middle and southern American markets to Britain. They further maintained that the inferior cards that the British exported, with teeth loosely set in thin leather, were suitable merely for coarse wool, and that the prohibition on exports was causing unemployment among poor families in England's textile districts. Following the Board's recommendation, Parliament passed an amending act allowing the export of coarse wool cards to the United States.[44] The other occasion when the Board expressed willingness to change the law came in 1798 over the export of primary processing machinery, as noted above.

Though the Board made limited efforts to enforce the prohibitory laws down to about 1807, after that date it simply recorded its in-

[43] For the operation of the early–nineteenth–century patent system, see G.B., *Parl. Papers (Commons)*, 1829 (332), III, "Reports from the Select Committee on the Law Relative to Patents for Invention." Censorship of technical publications and the role of the British patent system in the process of technology transfer will be considered in more detail in my forthcoming doctoral thesis.

[44] B.T. 5/2, pp. 290, 296, 300–305. P.C. 2/130, pp. 278, 309–314.

ability to halt the emigration of artisans and the export of machinery. Finally, in 1820 the Privy Council suspended its 1795 wartime Order-in-Council, which was cited by the Board as late as 1818 and used by Customs until early in 1821.[45] It seems to have been this administrative impracticability in applying the laws that spurred the changes of the 1820s.

II. Liberalizing Amendments of 1824 and 1825

All restrictions on artisan emigration were lifted in 1824, and the following year the prohibitions on machinery exports were consolidated and placed under a licensing system that allowed some relaxations. These changes came in the period of economic liberalism associated with Lord Liverpool's enlightened Tory government of 1822–1827 and in the years of expanding trade, 1823–1825.

Initiatives for the political assault on the prohibitory laws originated with two prominent free traders, the Ricardian economist J. R. McCulloch, and the Radical M.P., Joseph Hume. In the *Edinburgh Review* early in 1824, McCulloch ended a long essay against the Combination Laws (which in the 1823 session of Parliament the Radicals were planning to repeal) with condemnation of the restraints on emigration: all the great jurists pronounced them unjust; in a prospering economy they were unnecessary; in declining trades they prevented the relief of unemployment; they were unenforceable; and they deterred only the "poor and ill-educated class of artificers" from flocking to the United States, rather than the most skilled artisans. Regarding machinery export restrictions, he contended that these too were unenforceable; that they undermined the principles behind Britain's industrial growth; and that they spurred the construction of foreign machine shops.[46]

Less than a month after McCulloch's article appeared, Hume moved the appointment of a House of Commons Select Committee to investigate artisan emigration, machinery exports, and the combination laws. William Huskisson, President of the Board of Trade, spoke in his support. Both M.P.s unreservedly urged the removal of all prohibitions on the emigration of workers. Additionally, Hume pointed out that Parliament itself had, in attempting to reduce unemployment and spiralling poor-law rates, promoted emigration

[45] B.T. 5/17, p. 277; 19, p. 64; 26, p. 419; 27, p. 337. P.C. 2/202, p. 3. English Customs Board, *General Orders or Letters*, vol. 2 (1814–1823), 991–992.

[46] *Edinburgh Review* 39 (1823–1824), no. 78 (January, 1824), 315–345. For McCulloch's authorship, see Graham Wallas, *The Life of Francis Place, 1771–1854* (4th ed., London, 1925), 208.

schemes to the Cape and Canada. On machinery export, both Hume and Huskisson were more cautious. The law was inoperable, however, and if smuggling was enabling foreign rivals to construct their own manufacturing equipment, the British machine-making industry ought to be impeded no longer. Even so, Hume felt that the industry needed the encouragement of free export because it was hobbled by a patent system that allowed the piracies of foreign rivals.[47]

These views may be compared with those of the machine makers, manufacturers, and Customs officials who gave evidence before Hume's Select Committee between February 17 and May 20, 1824. Over the question of artisan emigration, witnesses from the textile industry, in contrast to the solidly protectionist iron masters, were divided. Those opposed feared the loss of technical secrets, a shortage of skilled workers, or the development of foreign competition. In the opinion of Thomas Ashton (a spinner and manufacturer in the Manchester area), only "rambling mechanics; no steady men, but loose sort of characters," and inferior workmen would resort to emigration; while William Fairbairn, the Manchester millwright, thought that repeal might even bring some artisans back to Britain. These diverging attitudes enabled Hume's Select Committee to recommend repeal of the prohibition on artisan emigration, on the grounds that the law was both unjust and impracticable. Repeal came on June 21, 1824.[48]

A very different response emerged from the textile industry over the proposed repeal of the prohibitions on the export of machinery. Apart from the London machinists, the textile manufacturers and machine makers before the Select Committee all registered their strong opposition to free export, fearing loss of overseas markets in the long term and, more immediately, curbs on the current expansion of business activity. Such resistance prompted Hume's Committee to advise a further enquiry. It came in the following session of Parliament, when business activity was just beginning to slow down. The poor response to Hume's appeals for witnesses possibly reflected the deepening depression. Only the Birmingham Chamber of Commerce and the master cotton spinners of Renfrewshire sent in evidence. Consequently, Hume's Committee was forced to rely on a reappraisal of the evidence given in 1824 and on the testimony

47 *Hansard* 2nd ser. 10, cols. 141–151 (February 12, 1824); Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*, Edwin Cannan, ed. (New York, 1937), 121.

48 G.B., *Parl. Papers (Commons)*, 1824 (51), V. Unless otherwise stated, this section is based on these six reports on the export of machinery, emigration of artisans and on trades unions; and on the 1825 report on the export of machinery, G.B., *Parl. Papers (Commons)*, 1825 (504). Musson, "'Manchester School'," p. 24. 5 Geo. 4, c. 97 (1824).

of four London engineers (John Martineau, Timothy Bramah, Henry Maudslay, and Alexander Galloway), together with an assessment of the pertinent statutes. When the Report on the Export of Machinery finally appeared on June 30, 1825, the Privy Council's continued discretionary control over the export of tools and machinery was recommended. Hume fought for his bill another eighteen months, but eventually gave way to the manufacturers' protectionist sentiments.[49]

As Joseph Hume argued in 1825, free emigration made nonsense of the restraints on machinery exports. How can we explain the incongruity arising from repealing the prohibitions on the live instruments of trade while preserving those covering the dead instruments? Obviously many more people were immediately affected by emigration restraints than by the machinery export prohibitions, and the former were more difficult to enforce. Public opinion had long regarded freedom to travel as one of the free born Englishman's rights, a feeling reinforced by Adam Smith, Thomas Paine, and the French Revolution.[50] All of these points help to account for the freeing of emigration in the liberal climate of 1824.

A change in the economic and political climate strengthened the protectionists' hand in 1825–1826. Depression led the Manchester machine makers to secede from their alliance with the manufacturers who used their machinery, since free machinery exports would allow them to accept £20,000 worth of foreign orders. But jobs for machine makers now meant unemployment for manufacturers, and politically the manufacturers held the whip hand: the government dared not risk alienating wealthy new industrialists or aggravating the threat to law and order posed by rising unemployment in their segment of the labor force.[51] Economic depression may account for the postponement of repeal of machinery export prohibitions, but it does not explain the manufacturers' long-term faith in the practicability of the machinery prohibitions despite, and concurrent with, free artisan emigration.

The incompatibility of the policies of free emigration on one hand and restriction of machinery exports on the other reflects differing assumptions about the locus of technology. Protectionists based their views on Manchester machine-making practices. Here the division of labor was reaching levels unknown before, particularly in the

[49] *Hansard* 2nd ser. 15, cols. 908–911 (May 5, 1826), 1118–1122 (May 11, 1826); 16, cols. 291-298 (December 6, 1826).
[50] *Hansard* 2nd ser. 12, col. 652 (February 24, 1825); Smith, *Wealth of Nations*, 625; E. P. Thompson, *The Making of the English Working Class* (London, 1963), Chap. 4.
[51] See sources in note 49.

handicraft arts of turning and filing. Consequently, specialization was diffusing traditional skills over a multitude of sub-trades, at least six of which, for example, were required to make a spinning frame. Now the international movement of machine-building initially required the emigration of teams of skilled artisans, in place of individual craftsmen. Since workers emigrated singly or in family groups, free artisan emigration seemed unlikely to represent a leakage of technology.

Hume and the free traders, drawing upon London's machine-building experience, arrived at the opposite conclusion. In the first two decades of the nineteenth century Henry Maudslay and his pupils had wrought a machine-making revolution in the London area. Their metal-cutting tools – screw cutters, planes, and lathes – permitted a precision in metal working that could hardly be matched by the most skilled hand craftsman. The new machines dispensed with the need for highly-developed skills and also facilitated accurate copying of machinery from models, specifications, or drawings. As Alexander Galloway testified in 1824, metal-framed cotton machines were as well built in Paris as in Manchester; the only difference was their price.[52]

Some Manchester machine makers, like Sharp, Roberts & Co., were operating the new machine tools in the 1820s, but northern manufacturers seem to have been unaware of this, assuming that the locus of technology still resided in teams of specialized craftsmen. In fact it had shifted from men to machines, and the manufacturers' imposition of regulated protection between 1825 and 1843, based upon the Board of Trade's licensing system, became a vain effort to shut the stable door after the horse had bolted.

III. Period of Discretionary Limitation of Machinery Exports, 1825–1843

In February 1825, four months before the Select Committee published its Report on the Export of Machinery, Board President William Huskisson admitted to the Commons that he had assumed discretionary powers and was allowing some prohibited machinery, such as hydraulic presses, to be exported. After a Commons debate on the subject in mid-June, it was agreed that the Board of Trade

52 Besides the evidence in the 1824 (p. 17 for Galloway's comment) and 1825 reports, see L. T. C. Rolt, *Tools for the Job. A Short History of Machine Tools* (London, 1965), 83–121, for a general survey of the machine tool revolution. A. E. Musson and Eric Robinson, *Science and Technology in the Industrial Revolution* (Manchester, 1969), 459–509, deal with Manchester developments. Also Thompson, *Making of the English Working Class*, 245–246.

should exercise this kind of control. No statutory power was ever conferred on the Board; instead, the Customs Regulation Act of 1825 consolidated and continued all the earlier prohibitions on the export of machinery. They were renewed in 1833 and finally repealed in 1843. During this period the Board advised the Treasury on applications for machinery export licenses "under the general power of the Lord High Treasurer," but Huskisson apparently never received an increased staff to cope with the flood of applications that he expected.[53]

Under the new system an exporter petitioned the Board of Trade, disclosing the nature and value of his machinery, its port of shipment, and destination. If the Board believed that the machinery came under the prohibitions but might be exported, it wrote to the Treasury recommending a license. The Treasury then informed Customs at the port of exit, and the exporter learned of the license by contacting Customs there. The license, which was valid for twelve months, cost two guineas. If the Board did not decide to permit export, it simply notified the exporter and the case was closed.

Short of staff, the Board developed several tactics in doubtful cases to transfer the burdens of investigation and even of decision to other parties. It placed the burden of proof upon the applicant that his machinery came under the 1825 Act, and the onus of detecting inaccurate machinery descriptions upon Customs officials, who also advised the Board on the mechanical aspects of identification, relying on technical textbooks or the opinions of professional engineers. On rare occasions the Board noted in its Machinery Books, "left to Treasury to decide."

On the wharf, Customs men inspected machinery to verify that it corresponded with its license description. They made a record of the shipment in the Customs House books and cleared the equipment or, in doubtful cases, detained it. In clearly fraudulent cases, officials seized the shipment and placed it in the King's warehouse. If the shipper was convicted in the Court of the Exchequer (Common Pleas), his impounded machinery was auctioned off and the proceeds paid to the Crown and the Custom officers involved. No other penalty was exacted.

Occasionally the Treasury issued export licenses without apparent

[53] *Hansard* 2nd ser. 12, col. 652 (February 24, 1825); 13, cols. 1136–1138 (June 14, 1825). G.B., *Parl. Papers (Commons)*, 1841 (201), VII, "First Report from Select Committee Appointed to Inquire into the Operation of the Existing Laws Affecting the Exportation of Machinery," 8. Unless otherwise stated, the material in the remainder of this paper derives from this report and from its companion, the Second Report on the Exportation of Machinery, *Parl. Papers (Commons)*, 1841 (400), VII. Precise citations from these major sources are provided only for verbatim quotations.

reference to the Board of Trade. Between 1825 and 1839, the Board in every year except 1826 dealt with more applications than the Treasury, but in 1826 the Treasury handled sixteen applications untouched by the Board and in 1836, two. Nevertheless, the evidence suggests that the Board of Trade was the key member of the administrative triumvirate (the Treasury, the Board of Trade, and the Customs Board) responsible for running the licensing system.

The Board of Trade's Licensing Policy

Under the licensing system there were three broad categories of machinery: machines not specified in the 1825 Customs Act, and therefore freely exportable; machines listed in the Act but exportable under a Treasury license; and machines of which export was prohibited by the Act and by the Board's licensing principles. In a system that evolved slowly, these categories were not always clear-cut.

At the beginning of the licensing system, Huskisson tried to avoid charges of prejudice by laying down a principle to guide the Board in its licensing decisions. Addressing himself to a petition from the Manchester Chamber of Commerce, Huskisson explained during a debate at the end of 1826 on one of Hume's motions to repeal the prohibitory laws that "machinery of great bulk and much raw material" was exportable, but machinery of modern construction, depending on "the ingenuity and excellence of the mechanism, and where the raw material was trifling," was prohibited.[54] John Kennedy, a leading Manchester cotton spinner and machine maker, had first formulated this principle in his pamphlet *On the Exportation of Machinery* (dated April 6, 1824). It was hardly meaningful. According to A. E. Musson, Kennedy referred to steam engines and millwork when he wrote about heavy machinery.[55] But these had been exported for decades, as shown above. If, on the other hand, the principle applied to processing-machinery, it could only be confusing and naive. Spinning frames, for example, were both heavy and ingenious in design.

A different principle was formulated and relayed to Customs collectors by a General Order dated November 14, 1838. As Deacon Hume explained in 1841, licenses were withheld for all textile machinery used in the first, and all subsequent, processing stages in which the mass of raw material was divided up ready for spinning.

[54] *Hansard* 2nd ser. 16, col. 293 (December 6, 1826).
[55] Musson, "'Manchester School'," 25–26.

The only exceptions were made for foreign heads of state.[56] But this principle was not borne out by the Board of Trade's licensing decisions, for textile machinery was not the only type denied export licenses in years 1825–1835. Of twelve non-textile applications denied licenses in this decade, six were for iron rolling equipment, three were for machine tools (turning lathes and teeth cutting engines), and one for wire weaving reeds. However the late 1820s saw iron rolling and metal-working equipment and machine tools passed more and more often.[57]

As for textile machinery, the first ten years of the licensing system were marked by numerous violations of the 1838 rule. Spinning wheels went to Greece in 1827; more spinning apparatus to missionaries in New Zealand in 1829; cotton spinning machinery to missionaries in Madagascar in 1825; flax spinning machinery to Guernsey in 1825 and to Hamburg in 1831. The American ambassador, Albert Gallatin, obtained permission in 1827 to send a silk tramming machine to the United States. Mehemet Ali continued to gain as Egypt received over 500 power looms from Alexander Galloway in 1826 and 1828, and four drawing frames, 320 slubbing spindles, 580 fly frame spindles and 4800 mule spindles in 1835. Some 200 power looms went to Calcutta in 1828, and handlooms the next year, to be followed by power loom equipment in 1833. Three jacquard card cutters, though no jacquard looms, were exported, as were weavers' mails in 1838 and, earlier, shuttles and pickers in 1830. Marc Isambard Brunel was allowed to export his knitting machine (patented in 1816) to France in 1828, and the following year two stocking frames went to Upper Canada. Brunel's "tricoteur" was released on the grounds that it was a French invention that had not proved popular in England.[58] All of this suggests that the Board spent over ten years working towards the seemingly clear-cut criterion enunciated in 1838. A close study of the Board's Minutes for the first decade of the licensing system reveals that a rather more flexible and larger principle guided decision-making about machinery export licensing.

Hume and Huskisson recognized this principle in the Commons in 1825, and Huskisson took the opportunity to reiterate it early in 1826. He explained to a M. Andelle, who pressed for permission to export fifty cases of cotton spinning machinery to France, that the Board of Trade's "discretion was to be limited to such articles of machinery as might *in the opinion of the manufacturers* of this country, be per-

[56] Customs Board, *General Orders*, 1838 vol., for October 24, 1838. G.B., *Parl. Papers (Commons)*, 1841 (201), VII, 4.
[57] B.T. 6/151, *passim*.
[58] *Ibid*. B.T. 5/34, pp. 48, 417. B.T. 1/254, no. 33.

mitted *to be exported without injury to their interests.*"[59] On other occasions, too, refusals were made on the grounds of "the sentiments of the manufacturers."[60]

Manufacturing opinion came mostly from petitions sent spontaneously to the Board. In one case the Board did solicit opinion, asking the Customs, through their officers, to "ascertain among the woollen trade" whether the export of shearing machines would be "injurious to that branch of trade." Within a month the Leeds merchants and woolen manufacturers sent a memorial to the Board objecting to the export of cropping and finishing machinery, and John Jones of Leeds was denied a license.[61]

A Coherent Licensing Policy

Thus, there is some consistency in the apparently conflicting permissions and denials of the first ten years of the system. Missionary societies operating in remote regions hardly posed a threat to Britain's manufactures. Likewise a solitary emigrant worker taking a few tools with him no longer represented a critical leakage of technology. Thus, A. McKnight of Tarbolton was allowed to take two stocking looms to Matilda township, Upper Canada, in 1829, and Benjamin Levi took engraving tools with him to the United States in 1835. In each case it was emphasized that the tools were necessary for their owner to carry on his trade. On the other hand, in the opinion of Nottingham manufacturers the single lace machinery maker represented a major leakage of technology, and the Board did all in its power to keep his tools and machinery from leaving the country.

The practice of making gifts of machinery to heads of state was followed only in accordance with the interests of British manufacturers. Egypt, like India, lacked the complex of factors conducive to economic growth found chiefly at this time in Europe and the United States and represented no threat to British manufactures. Nevertheless there were limits. The Turkish ambassador in 1836 was confined to choosing one model of each kind of absolutely prohibited machine up to a total of ten models. But if machinery from a major branch of the textile trade was intended for a potential manufacturing rival, the chances were that no amount of diplomatic intervention could pry a license from the Board. Both the Russian ambassador in 1827

[59] B.T. 5/35, p. 155. Italics added.
[60] B.T. 5/36, pp. 78–80.
[61] B.T. 5/41, pp. 86, 109.

and the Swedish chargé d'affaires in 1830 failed to gain export licenses for cotton machinery.[62]

Not only the future destination and ownership served to indicate whether export would injure British manufacturing interests, but also the type of textile machinery concerned. Between 1825 and 1841 three classes of textile equipment seem to have had no difficulty in gaining export licenses. The first was obsolete equipment. Pre-industrial implements like spinning wheels or wool combs and their broaches were regularly exported, as were textile printing blocks, and also some old if not obsolete industrial machinery. In 1833 "some old defective machinery which had originally been applied to the spinning of worsted by hand" was passed for export to Rotterdam.[63]

Most equipment for preparing fibers for manufacture, such as cotton picking, baling, willowing, batting, scutching, blowing, and spreading machinery was allowed to leave the country, but not carding, drawing, roving, or spinning equipment. In the woolen industry, balers and pickers or devils and also rag or shoddy pickers (developed in the 1830s) and carding engines that did not divide up the woolen lap (i.e., that lacked Goulding's condenser or a piecing attachment) went out, but not billies, jennies, or mules or combing machinery. In the silk industry, preparatory equipment meant machines for reeling or winding the raw material and preparing waste silk, but not for throwing or twisting it. In the flax and hemp industries, preparatory machinery was understood to include breaking and heckling devices. But in the case of tow or coarse bast-fibre processing, for a number of years spinning machinery was allowed abroad, presumably on the grounds that Britain's fine flax spinners would not be threatened. Weaving and knitting machinery was rarely licensed, and lace-making equipment, never. Accessory textile equipment such as card grinders or card–clothing machines were not licensed for export, though card clothing frequently was. Weaving accessories were also sometimes allowed.[64]

The pre-1825 protectionist principle of allowing the export of machinery for initial processing in order to expedite the major manufacturing stages carried on in British mills was at the base of these policies. But two problems developed with this process-based criterion. New preparation machines were developed that revolutionized some branches of textile manufacturing in the 1830s. The rag picker, (on which the shoddy trade was based), waste silk machinery, and

[62] B.T. 5/38, p. 179; 39, pp. 319–320; 42, pp. 189, 357; 43, p. 440.
[63] B.T. 5/41, p. 489.
[64] B.T. 6/151, *passim.*

cotton spreaders, for example, tended to reclaim previously lost raw materials and, by increasing productivity and raising yarn quality — notably in the cotton industry — threatened British manufacturers in overseas markets. Tow preparing and spinning machinery, moreover, was so similar to that used in fine flax spinning that it could easily be adapted for this purpose; after 1835, therefore, its export was consistently prohibited.[65]

In the third group of textile machine types generally licensed for export were various finishing machines. Engraved copper rollers, calico printing machines, and calenders for cotton and linen cloth; cloth washing, drying and pressing (but not fulling, raising, or shearing) equipment for woolen cloth working; and fabric printing pieces in the silk industry were most frequently released. One curious discrimination was made in the case of calico printing machines. Their export to the United States was prohibited for a while, probably because New England cotton manufacturers were turning to cotton printing in the second half of the 1820s, but by 1830 the Board recognized that printing machines were licensed for Continental ports and then re-exported to America.[66]

Over two-thirds of the 2098 applications for licenses to export machinery between 1825 and 1843 involved textile machinery, a proportion that rose from 50 per cent in the 1820s to over 70 per cent after 1838. In the vast majority of cases the recorded destinations were European ports. About 10 per cent of the applications were denied licenses, and over 90 per cent of these refusals covered textile machinery.*

The Outflow of Machine Tools

Since the Board of Trade developed its licensing policy primarily as a reaction to pressure from British manufacturers, the absence of such pressure from machine tool makers must have been responsible for inattention to the outflow of such items. Export of rollers, slitters, presses having screws over 1½ inches in diameter, cutting-out presses, and lathes for "plain, round and engine turning" was prohibited under the 1825 and 1833 acts. Yet between 1830 and 1840 over 1300 metal working rollers, for iron, copper, tinplate, and zinc; 41 lathes, including planing, boring, and screw-cutting lathes; and 20 cutting engines including gear cutters and punching presses, were licensed

[65] B.T. 5/43, pp. 103–104, 151.
[66] B.T. 5/39, p. 272.
* The author has detailed data on destinations, fibers, and processing stages for the machinery involved in these applications, which he will be glad to supply on request.

for export. Inasmuch as these tools would have incorporated screws larger than 1½ inches in diameter, the total number of machine tools exported must have been much larger. The swiftness with which Americans became self-sufficient in machine tools is reflected in destination data, which reveal that most of this British technology was leaking to continental European rivals.[67]

It was not merely the failure of manufacturers to understand the central role of machine tools in the new technology, however, that accounts for the approval of increasing numbers of applications to export metalworking equipment and machine tools. There is evidence that the Board, a haven for free trade intellectuals in the 1830s, biased machinery export licensing decisions towards free trade in these years. Petitions from the Birmingham Chamber of Commerce in 1827 and the Manchester Chamber of Commerce in 1828 and 1834 to strengthen the prohibitory laws met with the Board's refusal or silence. And in 1827 the Board recorded that it did "not think it would be advisable to introduce a system of more general prohibition."[68] The Board's free trade influence was also revealed in its relations with the Treasury. In the case of tow–spinning machinery Treasury overruled the Board's recommendation of free export. However, when Goole Customs officers confiscated bobbins of yarns exported by Manchester merchants and Treasury sided with Customs, the Board brusquely informed the Treasury that "there is no ground whatever for classing those little wooden rollers with machinery in the cotton manufacture."[69]

Ineffectiveness of Government

The attempt to safeguard Britain's textile technology from foreign rivals was defied in many ways. The licensing system itself, for example, might be used to cover illegal exports. Sometimes would-be exporters applied for "precautionary" licenses, in case their machinery should after all be covered by the law. At first, makers had attempted to export illegally by means of misrepresentation in applications, but after 1835 the Board considered applications defective if their specifications inadequately described the machinery they purported to cover.[70]

A piece of machinery might be broken up and exported in parts in the hope that Customs would be unable to identify it. Of the 51

[67] B.T. 6/151, *passim*.

[68] B.T. 5/36, pp. 133–135; 37, p. 262; 41, p. 554. These petitions from Birmingham and Manchester were evidently inspired by Manchester Chamber of Commerce. See Musson, "'Manchester School'," 36–37.

[69] B.T. 5/42, p. 306 to B.T. 5/43, p. 65 *passim*.

[70] B.T. 5/41, pp. 320, 493, 498, 518; 42, p. 383.

seizures made by Customs at Liverpool 1830–1839, indeed, some nine were of unidentified machinery parts, but at London this proportion was halved to nine out of the 121 seizures.[71] Customs evidently followed the policy of detaining unidentifiable parts and placing upon their owners the burden of establishing their true nature. Related to this problem of machinery identification was the ambiguity implied in the use of discretionary powers to waive or enforce the statutory prohibition, a weakness to which Deacon Hume drew attention in 1841.

Smuggling, or totally by-passing the licensing system, was facilitated by the coming of steamboat service across the English Channel. Operating by published timetables, the cross-Channel steamers began loading at a fixed time and cleared two hours later. The smuggler's ruse was to bring cases of machinery down to the dock at the last moment in hopes of avoiding Customs inspection. Or small items of machinery might be taken aboard by passengers in their baggage, which Customs men never examined. Smugglers could send machinery to the Continent by means of the coastal trade, depending upon the inadequacy of the fleet of Revenue cruisers, of which there were in 1839 only 49, plus 21 tenders, manned by 6183 sailors, to monitor the 7000-mile coastline of England, Scotland, and Ireland.[72]

Whatever the success of efforts to keep machinery at home, drawings of them continued to offer a major loophole in the licensing system. When the Nottingham bobbin net manufacturers petitioned for tougher enforcement of the law, the Board observed that "the transmission of drawings cannot be prevented." Eight years later, in 1841, even verbal descriptions were reckoned sufficient for a machine maker to copy a design. The artisan, meanwhile, continued to threaten the retention of technology in two ways. Where technology was centered in the artisan, as in the Nottingham lace trade, manufacturers still pressed the Board to restrain workers from smuggling parts and plans abroad. The artisan or mechanic might also, as agent for a foreign firm or government, engage directly in industrial espionage: in 1826 the Polish government had an agent in Britain pursuing the clandestine export of plans and machinery, while foreign apprentices were often deliberately sent to serve part of their time in British machine shops.[73]

[71] Customs House Archives, Customs 37/56, 'Seizures, 1825–1856," ff. 131–152. I wish to thank the staff of H.M. Customs Library and Archives for facilitating my work with their records, which were inspected by kind permission of H.M. Commissioners of Customs & Excise.

[72] See A.J.D., "Historical Notes on the Coastguard Service" (London, H.M.S.O., 1907), 23–24.

[73] B.T. 5/35, p. 282; 41, pp. 82, 417; 42, p. 273.

What might be done to seal these leakages? Before 1841 all that the Board did was to tighten its application procedures, to urge Customs to greater vigilance, and to contemplate more intensive Customs inspection of machinery presented for export clearance. The Manchester Chamber of Commerce assisted Customs, apparently at Liverpool, London, and Hull, in the late 1820s in identifying and arresting illegal exports of machinery.[74] That Customs kept very busy trying to prevent illegal exports is clear from seizure and detentions data, compiled by Customs. The Second Report of the Select Committee on the Export of Machinery in 1841 contains Customs data on detentions and seizures for the period January 1, 1824 through May 15, 1840. A Customs volume of "Returns Relating to Seizures" covers only seizures for the period 1830–1839 inclusive, but, unlike the Committee Report, it identifies types of machinery.[75]

By its very nature, however, the total amount of machinery smuggled abroad is unknown, so we have no means of precisely estimating the efficiency of British Customs houses. From the 1830–1839 return, the London officers were most busy, making 121 seizures in the period while Hull and Liverpool made less than half this number, 59 and 51 respectively. Then came Dover with 23 seizures, and Goole with 12. No other Customs house managed more than three seizures over the decade. The published return of 1841 likewise showed London most active with 84 detentions and 93 seizures. Hull followed with 13 detentions and 76 seizures; then Liverpool with 9 detentions and 70 seizures; Dover with 35 seizures; and Goole with 7 detentions and 5 seizures. The distinction between detentions and seizures was not clarified in the two returns, but presumably the 1830-1839 report included detentions because, on this basis, the figures in the two returns would seem to agree. The seizures in the 1830–1839 return, moreover, included numerous cases of mill work, machine tools, and large rollers being returned to owners.

These returns also suggest that the risk of losing machinery through confiscation was no real deterrent. Both the evidence presented to the Select Committee in 1841 and the 1830–1839 return of seizures give the strong impression that the illegal export of machinery was boldly conducted at major ports, whose well-built wharves could accommodate heavy machinery, and not on remote moonlit beaches, the romanticized setting for smuggling. Unscrupulous exporters appear to have had a low regard for the efficiency of the Customs,

[74] Musson, "'Manchester School'," 36.
[75] Second Report, 1841, p. 107 (see note 53); for Customs seizures see note 71.

which was shared by the companies that offered them insurance against detection!

IV. The Ending of the Prohibitory Laws

In the early 1840s pressures for repeal mounted. When the severity of the 1825–1826 depression was repeated in the textile industry in 1841–1842, the cotton manufacturers no longer presented a united front.[76] Manufacturers, who supported the Anti-Corn Law League in the interest of lower food prices, moved logically towards a concomitant policy of free machinery exports; and free traders rapidly advanced their cause in the late 1830s in Lancashire, taking over the Directorate of the Manchester Chamber of Commerce early in 1839.[77] By the spring of 1841, the manufacturers were at the end of their tether. In the opinion of a protectionist Manchester cotton spinner, Holland Hoole, "the general expression of feeling is, that the legislature may do whatever they please, they cannot make things worse."[78] The engineering industry in Manchester, moreover, had expanded so far that machine makers rivalled manufacturers as a major industrial pressure group. Furthermore, there is evidence that provincial men were becoming increasingly involved in the textile machinery export trade in the 1830s and 1840s. A quadrennial sampling of applications for textile machinery export licenses, 1826–1842, shows that the percentage of London applicants fell from 78 per cent in 1826 to 33 per cent in 1842.[79]

Mark Philips, one of the two Manchester M.P.s, successfully moved, on February 16, 1841, for a Commons Select Committee to investigate the export of machinery.[80] In a masterly synthesis of the evidence, the Committee's Report summarized the objections to the mixed system of law and license, and surveyed the major changes that had occurred since 1825. Among the former were the difficulty in applying the 1838 principle, the insufficient expertise of Customs officers in both law and mechanical engineering, confusion and uncertainty arising from the conflict between the statutory prohibitions and the Board of Trade's licensing principles, and the sheer impossibility of preventing smuggling.

76 R. C. O. Matthews, *A Study in Trade Cycle History: Economic Fluctuations in Great Britain, 1833–1842* (Cambridge, 1954), 127–151.

77 Norman McCord, *The Anti-Corn Law League, 1838–1846* (2nd ed. London, 1968), 39. See also Musson, "'Manchester School'," for diminution of the activities of Manchester Chamber of Commerce in the 1830s.

78 Second Report, 1841, p. 52 (see note 53).

79 Musson, "'Manchester School'," p. 41 and Table 1. Author's data based on London directories.

80 *Hansard* 3rd ser. 56, cols. 670–692 (February 16, 1841).

A series of developments had produced a new situation since 1825: the free emigration of artisans; the almost free export of coal; the revolution in machine tools, also freely exportable; important improvements in flax, waste silk, and cotton preparatory machinery; the rise of machine-making industries on the Continent and the United States; the easy transmission of new inventions through models, drawings, letters, and oral descriptions; active efforts to acquire British technology on the part of foreign governments; and the discriminatory effects of the domestic patent system against British inventors. To these considerations, which substantiated the futility and injustice of protection, were added familiar free trade arguments.

The protectionists could only urge the repeal of the Corn Laws and reductions in foreign duties before, rather than after, machinery export was freed. To maintain efficient protection for machinery exports, they suggested the registration of machine makers, stamping makers' names on machinery, and the funnelling of machinery exports through five or six ports for inspection by competent Customs officers. Meanwhile, manufacturers and machine makers alike faced up to the irritating revelation by the Select Committee's First Report, that more types of machinery than were generally assumed lay outside the export prohibition. Evidently export agents and smugglers had exploited the ignorance generated by the licensing system to rack up large profits, mostly at the expense of foreign purchasers.[81]

In July 1841 the Board allowed free export of spinning machinery to the colonies, if bonded against re-export, and in August 1842 it made a more sweeping relaxation. Most types of cotton and woolen machinery were released to foreign markets through the three ports of London, Liverpool, and Hull where specially competent officers examined the machinery, as Sharp, Roberts & Co., leading Manchester machine makers, had urged in 1827.[82] Though the Select Committee voted eight to one in favor of repealing the prohibitory laws, Parliament tarried for another two years. Gladstone, as President of the Board of Trade, at last took up the question of repeal in 1843. The delay, he claimed, stemmed from the new Tory government's initial preoccupation with reform of the tariff schedule chiefly in 1841–1842.[83] In the summer of 1843 he acted swiftly. His Machinery Exportation bill was reported on July 10 and by August 22 was on

[81] See note 53.
[82] B.T. 6/151 and 152 *passim;* B.T. 5/36, p. 246.
[83] *Hansard* 3rd ser. 70, col. 830 (July 10, 1843).

the statute book. After nearly one hundred and fifty years, all types of British machinery were at last freely exportable.[84]

V. Conclusion

The most important fact about laws to prevent export of technology is that, despite spasmodic yet determined efforts, they were administratively impracticable. In addition to communication difficulties between the half dozen government departments involved, intractable problems at the ports made it difficult to filter emigrants and exports. Discriminating between skilled and unskilled artisans raised practical questions about definition, detection, and deterrence, while hitting upon positive measures to reverse emigration proved impossible. In wartime, the government tried simply to discourage all emigration, but even wartime pressures could not induce it to override the public's faith in the rights of the freeborn Englishman and its fear of the Census apparatus that a passport system would have required.[85] The tide of emigration continued to rise, and it could only be a matter of time before law followed practice. Free emigration was enacted soon after the post-war repression was replaced by a more liberal political and economic climate.

Illegal machinery exports were also very difficult to contain. Not only were machines readily transmogrified into parts, models, plans, specifications, patents, and mental images, but also some machines were legally released because their export was thought beneficial to British manufactures, as with primary processing machinery, or because they apparently held little threat for British manufacturers, as with steam engines, mint machinery, and obsolete equipment. Such relaxations and those dictated by diplomacy helped to open the door to free export. That this movement was aborted for a decade and a half in 1824–1825, when free emigration began, resulted from the manufacturers' failure to perceive the shift in the locus of technology from men to machines.

Administratively the licensing system of 1825–1843 was likewise difficult to implement. The success of machinery smugglers can be surmised from the ease with which foreign rivals acquired British models, the availability of insurance cover for illegal exports, and the infrequency of Customs machinery seizures, averaging less than thirty a year in the 1830s. The principles guiding the award of export

[84] *Hansard* 3rd ser. 71, cols., 493–517 (August 10, 1843), cols. 545–547 (August 11, 1843); 6 & 7 Victoria, c. 84.

[85] See David Glass, *Numbering the People: the Eighteenth-Century Population Controversy and the Development of Census and Vital Statistics in Britain* (Farnborough, Hants, 1973), 19–20. I am obliged to Dr. Charlotte Erickson for this reference.

licenses were never closely and satisfactorily defined, while the avowed principle — the interests of the manufacturers — was too vague to be consistently applied to complex and changing industrial technologies, especially those of machine building and textile manufacturing.

While quantification is impossible, it is likely that laws prohibiting the diffusion of technology did have some effect. They surely discouraged some potential emigrants from setting out on the international tramp; they certainly kept many emigrants from returning home. But despite the laws, thousands of artisans did go abroad during the French Wars, taking their machine building, operating, and managing skills with them. The licensing system likewise reduced the volume of machinery going abroad, but by 1841 no knowledgeable contemporaries believed that new technology would long remain safe from the hands of enterprising foreigners, especially as drawings and machine tools made copying extremely easy. British manufacturers unwittingly made their rivals' depredations easier still. Not comprehending the shift in the locus of technology, they persuaded the Board of Trade to shape the whole licensing system into an engine directed against textile manufacturing equipment: processing machines were halted, but not the machines that made processing machines.

The dominance of textile machinery in applications for export licenses confirms the familiar impression of Britain's early lead in textile manufacturing. The official demand pattern, however, is not readily quantifiable, because machinery values are irregularly, and technical data never, recorded in the Board of Trade papers. The only firm conclusion to be drawn is that northern Europe showed the greatest interest in Britain's textile machinery, especially in 1834 and 1838; expectedly, the Board's licensing policies noticeably weighted official demand toward preparatory machinery.

Britain prohibitory laws thus failed signally to stem the flood of technological information spreading abroad, either via men or machines, in this early industrial period. Administering and policing the sort of protection envisaged by the laws required Draconian measures that public opinion would not tolerate and internal economic and social conditions could not support. After 1825 British manufacturers made an inadequate system of regulated protection more ineffectual still by biasing it away from machine tools and towards manufacturing machinery. In these circumstances the flood could hardly be dammed.

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Oil and Antitrust: The Oil Cartel Case and the Cold War*

Nowhere was the postwar growth of multinational corporations more dramatic than in the petroleum industry. The major oil companies of the western nations were soon banded together in a complex of joint exploration, producing, refining, and marketing organizations. But efforts to advance criminal prosecution of the American companies under the antitrust laws soon ran head-on into overriding considerations of national security. The hardening of the Cold War, complicated by internal political weaknesses in Iran, persuaded both President Truman and President Eisenhower to soft-pedal litigation. In the end, criminal prosecution of joint production enterprises became civil suits against marketing and pricing agreements, which were settled by consent decree. This, according to Professor Kaufman, amounted to attacking "the tail but not the head or body of the energy tiger."

In 1918 Congress passed the Webb-Pomerene Act exempting certain business combinations engaged in foreign commerce from the provisions of the antitrust laws. The purpose of this legislation was to encourage small businessmen to enter the field of foreign commerce by allowing them to form joint selling agencies in competition against foreign buying cartels. Although never very successful, the measure was the government's first meaningful effort – aside from the Sherman, Clayton, and Federal Trade Commission Acts – to legislate on foreign antitrust questions.[1]

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* This essay is based in large measure on the Department of Justice Files relating to the Oil Cartel Case, 1940s to 1968, file number 60–57–140, Washington, D.C. The file consists of several thousand pages of bound documents as well as several hundred thousand pages of supporting documents, most of which are still in file cabinets and cartons in a Department of Justice storeroom. The Department of Justice made this material available to the author through the Freedom of Information Act. The author wishes to acknowledge the cooperation of the Department of Justice in making this material available. He also wishes to express his appreciation to the Bureau of Grants and Research of Kansas State University for two grants that made the research for this essay possible. Except where otherwise noted, the materials cited in this essay are the bound documents in file 60–57–140 and are cited as DOJ, 60–57–140.

1 On the Webb-Pomerene Act, see Burton I. Kaufman, *Efficiency and Expansion: Foreign Trade Organization in the Wilson Administration, 1913–1921* (Westport, Conn., 1974), 214–216. See also Wilbur L. Fugate, *Foreign Commerce and the Antitrust Laws* (Boston, 1973) 223–254.

As the United States expanded abroad after 1918, foreign trade issues became manifold. This was especially true for the period following the end of World War II when the growth of multinational corporations changed the entire nature of foreign commerce. Not only did government and business leaders debate the value of the Webb-Pomerene Act, but they also gave increased attention to such other matters as foreign subsidiaries, foreign and foreign-related joint ventures, patents and technology, and trademarks in foreign commerce.[2]

For the most part, the courts applied a rigorous interpretation of the antitrust laws, even narrowing the scope of dealings that could take place between a parent company and its foreign subsidiaries or between two subsidiaries of the same parent company.[3] Likewise, the Truman and Eisenhower administrations advocated, at least in theory, strong support for stringent enforcement of the antitrust laws abroad as well as at home. For example, the Federal Trade Commission (FTC) issued a series of reports indicating that major industries had violated the antitrust laws by restraining foreign commerce.[4] The Department of Justice increased the number of its prosecutions involving overseas trade,[5] while Truman and Eisenhower made clear their own support for international free trade by attacking a number of trade practices, including the establishment of world monopolies and cartels. As Truman explained his position in 1949, "[Trade] agreements do not touch certain important obstacles to the expansion of world trade. Subsidiaries, cartels, and many other devices have important effects in limiting trade or creating disadvantages for one country as compared with another."[6]

Even more important than antitrust questions in determining policy toward foreign trade, however, was growing national concern about the hardening Cold War with the Soviet Union. Simply stated, administration and other public leaders, believing that the United

2 Fugate, *Foreign Commerce and the Antitrust Laws, passim.* Kingman Brewster, Jr., *Antitrust and American Business Abroad* (New York, 1958), *passim.*

3 Mira Wilkins, *The Maturing of Multinational Enterprise; American Business Abroad* (Cambridge, Mass., 1974), *passim.*

4 Federal Trade Commission, *Report on the Copper Industry* (Washington, D. C., 1947); Federal Trade Commission, *Report on the Sulphur Industry and International Cartels* (Washington, D. C., 1947); Federal Trade Commission, *Report on International Electrical Equipment Cartels* (Washington, D. C., 1948); Federal Trade Commission, *Report on International Steel Cartels* (Washington, D. C., 1948); Federal Trade Commission, *Report on Fertilizer Industry* (Washington, D. C., 1950); Federal Trade Commission, *Report on International Cartels in the Alkali Industry* (Washington, D. C. ,1950).

5 Wilkins, *The Maturing of Multinational Enterprise*, 292–300; Fugate, *Foreign Commerce and the Antitrust Laws*, esp. 444–447.

6 *Public Papers of the Presidents of the United States: Harry S. Truman*, 1949 (Washington, D. C., 1964), 233–235. On Eisenhower's views, see especially, *Public Papers of the Presidents of the United States; Dwight D. Eisenhower*, 1954 (Washington, D. C. n.d.) 352–364.

States had the responsibility for containing Soviet (communist) expansion throughout the world, subordinated questions of foreign commerce, including antitrust matters, to the exigencies of national defense and security as they saw them. The result was internal tension in the administration and a bifurcation of policy — on the one hand, prosecuting violators of the antitrust laws while, on the other, allowing, even encouraging, violations when they were conceived to be in the interests of national defense and security. Such was the case where the nation's petroleum industry was concerned.

In 1952, the Truman administration began the process of bringing criminal indictments against the nation's five major oil companies, Standard Oil of New Jersey (Jersey), Socony Mobil (Socony), Standard Oil of California (Socal), Texaco, and Gulf Oil. The administration accused these multinational giants, along with Royal Dutch Shell and Anglo-Iranian Oil (now British Petroleum) with violation of the nation's antitrust laws by having engaged in a worldwide combination to restrain and monopolize the United States's domestic and foreign commerce in crude oil and petroleum products. The administration hoped to obtain relief by forcing divestiture of the defendants' joint production, refining, pipeline, and marketing operations. However, faced with the exigencies of the Cold War after 1950 and seeking to use the major oil companies for foreign policy purposes (such as preventing the spread of communism in that area, assuring America's control of the world oil trade, and securing a reliable source of crude oil for the United States and its allies at reasonable prices), the Truman and Eisenhower administrations so altered and narrowed the scope of the antitrust proceedings that the defendants were able to maintain their hold on Mideast oil even up to 1968 when the Justice Department decided to drop its proceedings against the last defendants, Socal and Socony.

Investigations of the Oil Industry

The Department of Justice had been concerned for some time about the foreign operations of the oil companies. As early as 1942, in a separate suit, the Justice Department had charged Jersey with having illegally arranged with the German chemical trust, I. G. Farben, not to compete against it in chemicals in return for the latter's agreement not to compete in oil. During the preparation of the case, documents were uncovered revealing an arrangement between Jersey and Royal Dutch Shell for maintaining their respective marketing positions as provided for in an earlier pact known as the

"As Is" agreement. Jersey signed a consent decree enjoining it from participating in this agreement or from otherwise restricting American foreign commerce. However, the Justice Department obtained information after World War II indicating that "As Is" was still operating. The information included evidence that Jersey and Royal Dutch Shell had been conducting meetings about their "As Is" positions as well as a letter from a Czechoslovakian subsidiary of Socony making a direct reference to the current marketing position of Shell under "As Is." On the basis of this information, an official of the Department's Antitrust Division, Robert Nitschke, recommended at the beginning of 1947 that the Justice Department seek grand jury authorization to begin an investigation of what he referred to as the "As Is" cartel; the investigation was to include not only Jersey, Royal Dutch Shell and Socony, but also Socal, Anglo-Iranian Oil, Gulf, and Texaco.[7]

Nitschke's recommendation was rejected by his superior, Assistant Attorney General Graham Morrison, for several reasons. In the first place, Morrison felt that the Justice Department simply lacked sufficient evidence to ask a grand jury for an investigation of the oil industry. As he told Nitschke, there was still inadequate proof that restraints of trade or enjoining of competition existed within the oil industry.[8]

At least as important in rejecting Nitschke's proposal, however, was the peculiar position of oil among largely unregulated industries. In public as well as in private circles the oil industry was widely regarded as an essential public utility requiring government support, including diplomatic assistance in developing foreign sources of oil. Even Truman agreed with this since he encouraged the expansion abroad of American oil interests.[9] Morrison was reluctant, therefore, to engage in what many within the administration, perhaps the president himself, might regard as a precipitous action against the oil industry. Nitschke's recommendation, he pointed out, "completely ignores the fact that distribution of oil both foreign and domestic is in fact a quasi-public utility business although not usually

[7] Frank W. Gaines to Robert Nitschke, October 4, 1946; Nitschke to Graham Morrison, January 31, 1947, DOJ, 60–57–140.

[8] Nitschke to John F. Sonnett, June 4, 1947, *ibid*. Morrison's response to Nitschke is in long hand at the end of Nitschke's memorandum.

[9] One reason why Truman encouraged the expansion of American oil interests was his fear that without an American presence in the Middle East, especially in Iran, the region might fall to the communists. According to one of his advisers, George Elsey, Truman went to the globe in his office during a meeting to discuss the Korean situation in late June, 1950. Putting his finger on Iran, Elsey noted, the president said "Here is where they [the communists] will start trouble if we aren't careful . . . if we just stand by, they'll move into Iran and they'll take over the whole Middle East." Papers of George Elsey (Harry S. Truman Library, Independence, Missouri).

recognized as such and is inately [sic] by nature of a monopolistic character." [10]

Not until five years later did the administration follow up Nitschke's recommendation. By this time strong pressures had developed within administration and government circles for a grand jury investigation of the oil industry as a preliminary to bringing criminal antitrust indictments against the oil majors. The purchase in 1947 of a 40 per cent interest in the Arabian American Oil Company (Aramco) by Jersey and Socony created an uproar in the Senate, where a special committee headed by Owen Brewster of Maine sought an investigation of the multinationals operating in the Mideast. Previously owned by Texaco and Socal alone, Aramco enjoyed a monopoly of the vast Arabian oil fields. Texaco and Socal agreed to the purchase in order to raise capital for increased production and for the construction of new pipelines. The effect of the sale appeared, however, to be the joining of four of the majors (and former competitors) into one huge cartel dominating Mideast oil production, refining, and distribution. Furthermore, the Brewster Committee was annoyed at what it believed to be excessive prices for Persian oil delivered by Aramco to the Navy and the American public. The Committee therefore urged Attorney General Tom Clark to look into the Aramco purchase, clearly anticipating that such an investigation would lead to antitrust action against the oil majors.[11]

In 1949 the Federal Trade Commission (FTC) undertook its own investigation of the oil industry as part of the series of studies it was making on the foreign trade practices of the nation's leading industries, including copper, electrical equipment, steel, and fertilizers. As the FTC noted in explaining the reasons for its study of oil, the Commission regarded international petroleum operations as constituting "one of the most important of the international cartels."[12]

The following year the FTC completed its investigation. As in its earlier reports, the Commission reached no conclusions about violations of the antitrust laws; nor did it make any recommendations about possible criminal indictments against the oil companies. But it left little doubt where it stood on these matters. Concentration in the form of jointly-owned subsidiaries and affiliated companies was

[10] Nitschke to John F. Sonnett, June 4, 1947, DOJ 60–57–140.

[11] Brewster to Clark, November 14, 1947, *ibid.* See also George P. Comer to John Ford Beecher, June 7, 1948, and Comer and Haldon R. Mohar to Herbert Borkland, September 1, 1948, *ibid.*

[12] Senate Select Committee on Small Business, Commission Print No. 6, *The International Petroleum Cartel: Staff Report to the Federal Trade Commission* (Washington, D.C.).

"probably more widespread in the international petroleum industry than in any other field of enterprise," it concluded.[13]

The National Security Council (NSC), Central Intelligence Agency (CIA), Department of Defense, and other agencies and individuals concerned with national security matters tried to keep the report (marked "classified") from being made public, regarding it as a threat to national security in the Mideast. At a special meeting on May 6, the White House's Intelligence Advisory Committee, on which many of these agencies and individuals sat, advised against releasing the report in any form, noting that its release would "greatly assist Soviet propaganda, would further the achievement of Soviet objectives throughout the world and [would] hinder the achievement of U.S. foreign policy objectives, particularly in the Near and Middle East."[14]

Nevertheless, the pressures against the oil companies had grown too great by this time to prevent further disclosures of their foreign operations. Rumors of the FTC's findings had already begun to circulate in official Washington, and the Judiciary Committees of both the Senate and the House were seeking access to its report (which was the reason for the Intelligence Advisory Committee's meeting). Furthermore, the Justice Department had accumulated sufficient evidence by now to recommend to President Harry Truman a grand jury investigation of the oil companies' overseas operations.[15]

The president's position in this developing struggle over foreign oil policy was ambiguous. As already mentioned, Truman supported the general proposition of expansion of American oil interests abroad. Moreover, as subsequent events soon showed, the president was heavily influenced by his national security advisers who were recommending a "hands off" policy toward oil abroad. However, the president was also committed to breaking up international cartels, which posed a challenge to the nation's stated commitment to the principles of free trade. In this respect, he shared a prevalent sentiment within administration and congressional circles for helping small business by strengthening the antitrust laws against big business, domestically as well as internationally.[16]

Faced with what seemed to be overwhelming evidence of an in-

[13] Senate Select Committee on Small Business, Commission Print No. 6, *The International Petroleum Cartel*, 1.

[14] John Edgar Hoover to the Acting Attorney General, May 7, 1952, DOJ, 60–57–140.

[15] W. B. Watson Snyder to H. G. Morison, January 23, 1952; "*Memorandum for the Attorney General*", January 24, 1952; W. B. Watson Snyder to Mr. Hodges, September 11, 1950. *ibid*.

[16] More work needs to be done on Truman's policy toward trusts, but see, for example, Alonzo L. Hamby, *Beyond the New Deal: Harry S. Truman and American Liberalism* (New York 1973), 46–47.

ternational petroleum conspiracy to restrain American foreign and domestic commerce, the president decided he had to take action. On June 23, 1952 he ordered a grand jury investigation of the oil industry for the purpose of bringing criminal indictments against the multinational giants. A high ranking official of the Justice Department's Antitrust Division, Leonard Emmerglick, was put in charge of the investigation and subpoenas were served upon twenty-one companies, including all the majors, asking them to produce thousands of documents on their foreign and domestic operations.[17]

The Iranian Crisis

Within a few months Truman reversed himself and ordered that the investigation be dropped. In place of criminal action he recommended that the Justice Department consider a civil suit having more complex search procedures and carrying milder penalties. Fearing the expansion of Soviet influence in the Mideast as a result of a decision by Iran in 1951 to nationalize British Petroleum holdings in that country, Truman followed the counsel of his national security advisers who not only recommended strongly against prosecuting the Mideast oil companies, but who, in fact, hoped to use them for foreign policy purposes.

The problem in Iran developed largely as a result of British Petroleum's refusal to grant Iran a larger share of its oil profits. British Petroleum responded to the nationalization by placing a boycott on Iranian oil and then threatening legal action against any oil company that attempted to break the boycott.[18] From the beginning of the crisis, administration leaders, especially those in the Department of Defense and State and the NSC, warned of the growing influence of the Soviet Union in Iran (whose government was headed by the nationalist Prime Minister Mohammed Mossadegh) and of the dangerous precedent that Iranian nationalization might set for other oil producing countries. No worse harm could be done to American oil interests abroad and to American foreign policy, they argued, than to bring criminal indictments against the oil majors, which would be fodder for the Soviet propaganda machine

[17] Senate Foreign Relations Committee, Subcommittee on Multinational Corporations, *Committee Print, Multinational Oil Corporations and U. S. Foreign Policy*, 57–58. See also statement of Leonard J. Emmerglick, Senate Foreign Relations Committee, Subcommittee on Multinational Corporations, *Hearings, Multinational Corporations and United States Foreign Policy*, Part VII (Washington, D. C., 1974), 103–107.

[18] This incident is covered in numerous works on Mideast oil interests. One of the most recent is Christopher T. Rand, *Making Democracy Safe for Oil: Oilmen and the Islamic East* (Boston, 1975), 135–136. See also Robert Engler, *The Politics of Oil: A Study of Private Power and Democratic Directions* (New York, 1961), 203–204.

and which might lead to further nationalization of American foreign oil interests. Oil company spokesmen took up the same themes, even linking the FTC report on international petroleum with the nationalization of British Petroleum, despite the fact that the report was not published until a year after nationalization had taken place.[19]

As the crisis in Iran continued, a number of the same administration leaders sought to use the oil companies to achieve two foreign policy objectives: first, to make oil available to Europe from other producing countries, and then to win an American oil presence in Iran. In 1951, Attorney General J. H. McGrath approved a voluntary agreement permitted under the Defense Production Act, which had been passed after conflict broke out in Korea in 1950 and which allowed the President to grant antitrust exemption to voluntary agreements among industries deemed essential to national security. The agreement that McGrath approved authorized the formation of a Foreign Petroleum Supply Committee to channel supplies of petroleum to areas short of oil as a result of the Iranian stoppage. Later, as it became apparent that the Teheran government would never permit British Petroleum to return to Iran alone, Truman even instructed Secretary of State Dean Acheson to open discussions with the American majors and British Petroleum in hopes of reaching an agreement whereby American oil companies might enter Iran as part of an international consortium.[20]

Before any agreement with the oil companies could be worked out, Truman left office. But first he held a lengthy meeting of the NSC in which the Departments of Defense, State, and Interior recommended dropping the criminal investigations of the oil companies and the Justice Department urged their continuation. A few days later Truman made his decision. In a letter to Attorney General James P. McGranery, the president wrote: "As a result of factors which have emerged since the institution of the current grand jury investigation of the international activities of the major oil companies,

[19] See, for example, "Conference with representatives of the Department of State," prepared by George H. Schueller, August 13, 1952. According to Schueller, during this conference Robert Eakins, chief of the Department of State's Petroleum Policy Staff, thus suggested the Middle East situation as one problem on which there should be close consultation. He emphasized the delicate nature of this problem, the presence of national security interests, and the importance of keeping oil interests in the Middle East in the hands of United States nationals. DOJ, 60–57–140. See also "Memorandum re Pending Criminal Proceedings Against Oil Companies," January 21, 1953, *ibid.* For the oil company's campaign against the FTC report, see "Editorials, News Stories, Articles, and Other References Indicating Attacks on FTCs Oil Cartel Report," October 17 and December 16, 1952, Stephen J. Springarn Papers, Box 47 (Harry S. Truman Library, Independence, Missouri). See also Engler, *The Politics of Oil*, 209–212.

[20] "Memorandum for the Secretary," November 26, 1952, DOJ, 60–57–140. See also W. B. Watson Snyder to H. G. Morison, January 23, 1952 and George B. Haddock to Newell A. Clapp, August 22, 1952, *ibid;* Emanuel Celler to Harry S. Truman, OF 134–138, Harry S. Truman Papers (Harry S. Truman Library, Independence, Missouri).

I am of the opinion that the interest of national security might be best served at this time by resolving important questions of law and policy involved in that investigation in the context of civil litigation rather than in the context of criminal proceedings."[21]

The Justice Department yielded to the president by dropping its criminal investigation. Not until President Eisenhower had been in office for three months did the Department even resume its case, this time filing a civil action with the federal district court of Washington, D.C. in which it charged an international conspiracy by the major oil companies to restrain American foreign and domestic commerce by controlling the world's production, refining, and distribution of oil. Two months later the court transferred the case to the Southern District of New York for final disposition.[22]

By following the advice of his national security advisers, Truman had seriously damaged the Justice Department suit even before it was filed. In simplest terms he helped develop a defense for the oil companies against Justice Department charges of antitrust violations. The oil companies were serving a vital national function abroad, they were now able to argue, helping to protect the free world against communist inroads. To attack the oil companies on obscure and unfounded grounds of conspiring to control world markets and to restrain world trade was to invite Soviet expansion into the Mideast and other oil producing regions. Besides, the government had just granted the oil majors antitrust immunity on the grounds of serving the national interest. How could that same government now seek to prosecute the oil companies for violating the national interest through an alleged antitrust conspiracy? These themes oil company executives would continue to stress for the next fifteen years.[23]

The Justice Department was fully aware of the implications of Truman's actions for their suit against the oil majors. During the Iranian crisis, the Department had agreed only reluctantly to the Defense Production Act exemption of oil from the antitrust laws, emphasizing the limited nature of the exemption and providing for government supervision of the proceedings of the Foreign Petroleum Supply Committee established according to the provisions of the Defense Production Act. More important, at the meeting before Truman's decision to drop criminal proceedings against the oil

[21] Truman to McGranery, January 12, 1953, DOJ, 60–57–140.

[22] Engler, *The Politics of Oil*, 216–217.

[23] See, for example, Oscar John Dorwin to Assistant Attorney General, May 23, 1957 and Dorwin, "Memorandum for the Department of State of the Views of the Texas Company," June 25, 1958; Herman J. Schmidt to Secretary of State, June 5, 1958; Oscar J. Dorwin to Lee Loevinger, November 15, 1961; David Haberman for files, January 24, 1962, DOJ, 60–57–140.

majors, Department officials had warned of the danger of relying on private business interests to carry out national policy. Nevertheless, the Department's hands had been tied by the national security considerations growing out of the hardening Cold War.[24]

Actions Under the Eisenhower Administration

The Justice Department fared little better under the new administration, through whose actions the Department was forced ultimately to limit its suit to marketing and price-fixing arrangements only. In these matters the Department did achieve some notable successes, forcing the breakup of a major marketing organization, Stanvac, which was jointly owned by Jersey and Socony, and the partial breakup of a second marketing firm, Caltex, jointly owned by Texaco and Socal. The Department also ended a number of anticompetitive marketing arrangements, involving Gulf, Texaco, British Petroleum, Royal Dutch Shell, and Jersey. However, these were very limited victories since the basic structure of oil operations abroad – joint production, refining, and transportation – remained untouched. The result was that while some antitrust relief was obtained and certain cartel arrangements broken, the oil majors succeeded in keeping their firm grip on Mideast oil through most of the 1960s, dictating world prices and keeping independents out of the region.

It would be easy to attribute this success to the warm relationship that existed between the oil industry and the Eisenhower Administration. Certainly the Department of Interior, many of whose top officials were closely tied to the major oil companies, played an obstructionist role throughout most of the antitrust proceedings, defending the actions of the oil majors in the Mideast, and even refusing to make available to the Justice Department requested documents on oil operations abroad. Furthermore, President Eisenhower himself enjoyed friendly personal relations with a number of oil leaders, who had an opportunity to influence his oil policies.[25]

The final outcome of the oil cartel case was far more involved.

24 "Report of the Attorney General to the National Security Council Relative to the Grand Jury Investigation of the International Oil Cartel – January 1, 1953" and "Memorandum for the Attorney General" by Robert S. Cutler, DOJ, 60–57–140. See also W. B. Watson Snyder to H. G. Morison, January 23, 1952, *ibid.* The Justice Department had quite early taken the position that it would not use private interests for public policy purposes. See, for example, Johnston Avery to John C. Stedman, May 31, 1949, *ibid.*

25 The Department of Interior had been uncooperative and defensive of the oil companies even before the civil suit was filed. See Secretary of Interior Oscar L. Chapman to Attorney General James P. McGranery, January 17, 1953, *ibid.* See also Clarence A. Davis (Acting Secretary of Interior) to Attorney General Herbert Brownell, Jr., May 1, 1956, *ibid.* See also Robert Engler, *Politics of Oil*, esp. 92–94, 126–128, 245–246, and 358–359.

however, than this analysis suggests. For one thing, such an explanation assumes a homogeneity of oil interests during the 1950s (and into the 1960s) that never existed. Congressional hearings in the 1950s reveal that the story of American oil in that decade was one of bitter warfare between producer and refiner, major and independent, distributor and consumer, each seeking to protect its own interest against the other, generally through complex and varying alliances. Moreover, to the extent that Eisenhower participated in this maze, it was to support independent domestic producers who felt threatened by increased imports of cheap foreign oil by the majors.[26]

More fundamental to the disposition of the oil cartel case was the intrusion of the Cold War into domestic policy. Like his predecessor, Eisenhower subordinated antitrust considerations to the exigencies of the Cold War. In the process he encouraged and then approved arrangements among the oil majors that practically assured that their dominance of foreign oil would be protected from antitrust attack.

That foreign policy rather than antitrust considerations would continue to determine the final outcome of the cartel case was made clear soon after the Justice Department filed its civil suit. Department officials decided to confine their action to those firms headquartered and doing their principal business in the United States, thereby excluding as defendants, British Petroleum, Royal Dutch Shell, and even Aramco. This decision was reached at the highest levels of government and under great pressure from the Department of State, which was concerned by the policy implications of a more generalized antitrust case. By approving an NSC memorandum stating "that the enforcement of the antitrust laws of the United States against the western oil companies operating in the Near East [were] to be deemed secondary to the national interest," Eisenhower made clear that he was in full agreement with this approach to the suit.[27]

In fact, Eisenhower's major concern relative to the cartel case was a favorable settlement of the oil impasse in Iran. Accepting as his own Truman's plan of gaining an American presence in Iran, Eisenhower appointed Herbert Hoover, Jr. as his personal emissary to travel between the American majors, British Petroleum, and the

[26] Senate Committee on the Judiciary and Senate Committee on Interior and Insular Affairs, *Joint Hearings, Emergency Oil Lift Program and Related Problems* (Washington, D. C., 1957). See also Engler, *Politics of Oil*, 78–79, 143–146, 231–237 and 355–371.

[27] Senate Foreign Relations Committee, Subcommittee on Multinational Corporations, *Committee Print, Multinational Corporations and U. S. Foreign Policy*, 65–66. See also Walter Bedell Smith to Attorney General Herbert Brownell, Jr., April 27, 1953 and Wilbur L. Fugate to Stanley L. Barnes, January 24, 1956, DOJ, 60–57–140.

Teheran government in order to establish an international consortium to work the Iranian oil fields.[28]

The oil majors, which had abundant supplies of oil elsewhere, including the United States, were by no means eager to enter an Iranian consortium. They made it clear to the administration that they would do so only in the interest of national security, that is, to protect American interests against communist expansion, and only if they were promised antitrust immunity in the production of Iranian oil. "I note that 'the National Security Council has determined that it is the security interests of the United States that United States petroleum companies participate in an international consortium to contract with the Government of Iran'," the chairman of the Board of Texaco, J. S. Leach, wrote to Undersecretary of State Walter Bedell Smith in February, 1954, "We, of course, desire to cooperate in every way with the National Security Council. . . . However, as we wish to be quite sure that the Attorney General is satisfied that all final agreements which are executed pursuant to the proposed plan will not separately or collectively constitute a violation of the antitrust laws, or create a violation of antitrust laws not already existing, we feel that we should not become finally obligated under any agreement or understandings in pursuance of such plan, until they have been first examined and approved by the Attorney General." [29]

The Eisenhower Administration bowed to these demands of the oil majors. The Department of Justice granted a newly formed Iranian oil consortium consisting of British Petroleum, Royal Dutch Shell, the five American majors, and a number of smaller independents antitrust immunity in the exploration, production, and refining of Iranian oil.[30]

Eisenhower's decision to permit the formation of the Iranian consortium (which was reluctantly approved once more by the Justice Department on the grounds of national security) undercut much of the Department's case against the majors. While Attorney General Brownell gave only a qualified opinion of the consortium's legality and reserved the right to prosecute the case, his opinion had an

[28] See various memoranda in Senate Foreign Relations Committee, Subcommittee on Multinational Corporations, *Committee Print, The International Petroleum Cartel, the Iranian Consortium and U. S. National Security* (Washington, D. C., 1974), 33–95.

[29] Leach to Smith, February 16, 1954. DOJ, 60–57–140. See also Smith to Leach, January 28, 1954, *ibid.* According to the Department of Justice, following the Iranian embargo, a group of oil company representatives, known only by the initials, "G.A.C.," began operating in New York City as a private purchasing agency to fill the orders of alleged cartel members for shipment to Europe. Spot shortages of oil in the United States were alleged to be due to the purchasing activities of G.A.C., "Memorandum for the Attorney General," June 24, 1952, *ibid.*

[30] W. B. Watson Snyder to Assistant Attorney General Stanley N. Barnes, September 16, 1954, DOJ, 60–57–140.

obvious detrimental effect upon the government's case against joint exploration, production, and refining, since it was not prepared to prosecute the very actions that it had just encouraged and sanctioned in the name of the national interest. Officials within the Justice Department's Antitrust Division, who were responsible for bringing the case to trial, were fully aware of the difficult position in which they had been placed as a result of the Iranian settlement. While officially still seeking redress in these areas, as well as in marketing and price-fixing, they actually narrowed their action to the last two points only.[31]

The suit itself moved slowly through the courts from 1954 to 1960. With considerable success the oil companies fought a series of legal skirmishes in an effort to prevent disclosure of the details of their foreign operations. Their most compelling argument – and one which weighed heavily with the courts – was that production of documents located abroad would be resisted by host governments as violating national sovereignty. In this argument the companies were supported by the British, French, and Dutch governments, which refused the release of any documents.[32]

During the "Suez Crisis" of 1956, following the second Arab-Israeli War, the case was suspended for nearly a year. Once more responding to the fear of an oil shortage in Europe (as a result of the closing of the Suez Canal and the cutting of the Iraq pipeline to the Mediterranean), the administration actually granted the defendants and co-conspirators immunity from the antitrust laws in order to establish the Middle East Emergency Committee (MEEC). This committee was part of a plan of action to meet Europe's oil needs, a plan permitted under the Defense Production Act of 1950, which, it will be recalled, granted antitrust immunity in instances in which national security was involved. Through MEEC the oil companies were permitted to work together in lifting oil to Europe without fear of antitrust prosecution.[33]

Limiting Action to Joint Marketing and Price Fixing

Toward the end of 1957 the Justice Department, willing by this time to settle its case in return for relief in matters of joint marketing

31 *Ibid.*

32 Wilbur Fugate to Victor R. Hansen, June 3, 1957, DOJ, 60–57–140. See also Max Freeman to Leonard Emmerglick, October 16, 1953; Barbara J. Svedberg for files, June 27, 1956; Oscar John Dorwin, "Memorandum for the Department of State of the Views of the Texas Company," June 25, 1958; Wilbur Fugate to Lee Loevinger, April 13, 1961, *ibid.*

33 Senate Committee on the Judiciary and Senate Committee on Interior and Insular Affairs, *Joint Hearings, Emergency Oil Lift Program and Related Problems*, esp. 1–9, 762–869 and 1003–1336; Senate Committee on the Judiciary, *Petroleum, the Antitrust Laws and Government Policy* (Washington, 1957), 19–22, 25–26, and 51–55. See also Engler, *The Politics of Oil*, 305–307.

and price fixing only, decided to begin formal consent negotiations with the defendants. The crisis of the previous year made a settlement of the case seem imperative. Presiding Judge John Cashin urged an out-of-court settlement, noting that a public trial would have dangerous foreign policy implications in the Mideast and Venezuela. Attorney General Brownell, who now applied his own pressure for a settlement, made much the same point, while also emphasizing the national security importance of government-industry cooperation in foreign oil producing regions.[34]

Gulf Oil, which had been the most cooperative of the defendants in producing foreign documents — and against whom the government admitted it had one of its weakest cases [35] — appeared ready to settle, probably because it had less to lose than the other majors. The government's suit against Gulf rested largely on the latter's agreement with Royal Dutch Shell to sell Shell virtually its entire production of Kuwait oil, which Shell then marketed in the Eastern Hemisphere, allegedly according to "As Is" stipulations. The government sought to end this agreement (which also contained marketing prohibitions against Gulf in Shell territories) while requiring Gulf to set aside a portion of its Kuwait production for sale to independents. Foreign marketing was involved only indirectly in the case against Gulf. According to the government, Gulf shared profits and losses with Shell on its Kuwait oil. Gulf was willing to settle, therefore, provided the consent agreement protected Gulf's sales to Shell without forcing Gulf to admit to a joint marketing conspiracy.[36]

Jersey also seemed willing to settle with the government. Because of national security reasons, the government by 1957 had reduced its case against Jersey from sixteen points to only eight. While none of these called for divestiture or dissolution of Jersey's widely diversified joint producing, refining, or pipeline ventures abroad, they did call for relief in the areas of marketing and price-fixing. Substantial differences still remained between Jersey and the government on a number of issues involving these matters, such as the government's insistence that Jersey limit the amount of offtake (oil) it took from any of its joint production companies. However, Jersey consented to a number of government demands, the major one being the separa-

[34] Wilbur Fugate for files, April 12, 1957; Oscar John Dorwin to Victor R. Hansen, May 23, 1957; "Memorandum for the Attorney General," June 20, 1957; Wilbur Fugate for files, December 3, 1957, DOJ, 60-57-140.

[35] Wilbur Fugate to Stanley L. Barnes, November 3, 1955, *ibid.*

[36] Wilbur Fugate to Robert A. Bicks, November 15, 1957; Wilbur Fugate for Files, November 6, 1957; Wilbur L. Fugate to Robert A. Bicks, October 30, 1957; Wilbur Fugate for Files, November 25, 1957; Wilbur Fugate to Victor R. Hansen; December 5, 1957, *ibid.*

tion of the marketing assets of Stanvac, a joint Jersey-Socony company and one of the major marketing companies east of Suez.[37]

Actually, dissolution of Stanvac as a joint marketing venture would have been far less injurious to Jersey than to Socony since the former (unlike Socony) was strong enough to compete on its own against Stanvac's principal business rivals, Royal Dutch Shell and British Petroleum. Nevertheless, the government considered Jersey's concession on Stanvac a major breakthrough in its cartel case. Notwithstanding remaining differences, a settlement with Jersey seemed possible. Justice Department officials were persuaded that such an agreement along with one from Gulf would force the other defendants to come to terms. "Defendants Socony, Socal and Texaco have informed us that they are not interested in a consent judgment, at least at present," Assistant Attorney General Victor Hansen remarked in urging continuation of negotiations with Jersey. "However, a consent judgment with Jersey, and perhaps Gulf, might result in change of position by the other defendants." [38]

What Hansen failed to comprehend was the recalcitrance of the other defendants, especially Socal and Socony. None of these companies was as strong as Jersey abroad and each relied heavily on its jointly-owned subsidiaries in order to meet competition overseas. Without Stanvac, Socony's position east of Suez would be jeopardized. Likewise, Texaco and especially Socal depended on their marketing subsidiary, Caltex, to sell their share of Aramco's offtake. Unwilling to agree to the breakup of Stanvac or Caltex or to major changes in ownership and operations, as insisted upon by the government, the three defendants rejected consent settlements.[39] For its part, the Justice Department, having decided earlier not to settle with one defendant without reaching agreement with all (since any later court judgment might affect prior consent agreements), dropped its negotiations with Gulf and Jersey.[40]

Even as these negotiations had been taking place, a number of congressmen, including Senators Joseph O'Mahoney of Wyoming and Estes Kefauver of Tennessee, who had learned of the talks, had

[37] Wilbur Fugate for Files, April 4, 1957; "Memorandum for the Attorney General," June 20, 1957, *ibid.*

[38] "Memorandum for the Attorney General," June 20, 1957.

[39] Wilbur Fugate for Files, December 3, 1957; Oscar John Dorwin to Assistant Attorney General, May 23, 1957, *ibid.* See also Robert A. Bicks for Files, December 6, 1957 and Barbara J. Svedberg for Files, June 27, 1956. The latter memorandum concerns a discussion that Svedberg had with Texaco's chief counsel, Oscar John Dorwin. According to Svedberg, Dorwin remarked, with reference to breaking up Caltex that "they [Texaco] would carry the case to the Supreme Court on this issue alone, that they would 'go on like this for ten or fifteen years before breaking up Caltex.' "

[40] Wilbur Fugate for Files, December 4, 1957 and Robert Bicks for Files, December 6, 1957. *ibid.*

begun to complain about the possibility of an out-of-court settlement of the cartel case. As members of the Senate's Antitrust and Monopoly Subcommittee, which was investigating the MEEC, they were persuaded that the issues involved in the cartel case were too important, both from the point of view of foreign policy and the national economy, not to be decided publicly. As O'Mahoney wrote to Attorney General William P. Rogers in November, 1957 with respect to the case, "This is a question of foreign policy. It may be a question of national security, and it is surely a question of antitrust law and policy."[41]

Nevertheless, the general sentiment within the administration, government, and business remained one of settling without public trial, especially since concern was growing in public and private circles that the Soviet Union might seek to unbalance the western marketing structure by dumping its own surplus supplies of oil on the West. Gulf and Jersey were already willing to settle provided some unresolved differences and minor technicalities in language could be worked out. At the same time, lawyers for the three other defendants pressed the foreign policy importance of not embarrassing the oil companies through public disclosure of their activities while at the same time noting their own contribution to national security by providing the western world with oil at stable prices and preventing the spread of communism. Administration officials for the most part appear to have accepted the industry's arguments.[42]

The major break in the cartel case came finally in 1959 when, after years of delay, Judge Cashin ordered the defendants to produce foreign documents in response to government interrogatories. In reaching this decision, which was made only after obtaining State Department approval, Cashin was clearly trying to apply pressure on the defendants to reach settlement without having to go to trial. According to the prosecuting attorney, Wilbur Fugate, Cashin had told him earlier that while he (Cashin) thought an order to produce foreign documents "might hurt the companies in their dealings with foreign governments," he also believed that "the overhanging threat of an order might induce the defendants to settle the case." At the same time, Cashin applied pressure on the Justice Department for a quick settlement.[43]

[41] O'Mahoney to Rogers, November 20, 1957, *ibid.* See also Kefauver to Assistant Attorney General, December 27, 1957; Victor Hansen to O'Mahoney and to Kefauver, January 7, 1958, *ibid.*

[42] See, for example, Wilbur Fugate to W. Wallace Kirkpatrick, November 10, 1960 and Oscar J. Dorwin to Assistant Attorney General Lee Loevinger, November 15, 1960, *ibid.*

[43] Wilbur Fugate to Robert A. Bicks, December 10, 1959, *ibid.* See also Fugate to Bicks, June 26, 1959; Fugate to Victor Hansen, January 19, 1959; Fugate to Lee Loevinger, April

Cashin's decision to threaten the oil companies while continuing to press the Justice Department for a settlement broke the impasse that had developed following the negotiations of 1957. Although Socal, Socony, and Texaco continued to hold out against a consent agreement, the latter two softened their position. For example, Socony worked out a plan under which Jersey would take over Stanvac facilities in a majority of countries and Socony in the remainder. Socony would be compensated for the imbalance through various offtake and other product deals involving both companies' producing and refining facilities throughout the world. Joint activities, including marketing, would continue in such places as Pakistan, the Philippines, Australia, and, at least temporarily, Japan.[44]

Significantly, the Justice Department made it clear to Jersey that it "did not see any insuperable obstacles to a decree along the lines . . . mentioned," although it continued to object to a number of aspects of this arrangement, such as the exchange deals involving crude and products, and the fact that Jersey would obtain all Stanvac's assets in particular countries. Justice's position represented a substantial reversal of its earlier policy of 1957 when it refused to countenance Jersey's unilateral control of any of Stanvac's former assets. Significantly also, Justice appeared ready to drop its previous position of insisting upon consent agreements with all defendants rather than settling with one or two only in the hope that the others would follow.[45]

The Settlements

With all parties in the cartel case more amenable to settlement (except for Socal, which remained intransigent over the breakup of Caltex) the Justice Department reopened its consent talks with the defendants. After some negotiation, it reached settlement with Jersey and Gulf very much along the lines of the 1957 agreements except with respect to Stanvac. By the settlement reached with Jersey in November, 1960, Jersey consented to the breakup of Stanvac as a joint marketing venture with Socony. However, the judgment provided for a division of Stanvac's marketing assets only rather than a separation of all Stanvac's assets, which included transportation and

13, 1961; Herman J. Schmidt to Secretary of State, June 5, 1958; "Draft Memorandum of the Department of State Regarding the Plaintiff's Motion for Production of Documents," July 11, 1958; Robert Murphy to Victor R. Hansen, September 16, 1958; "Memorandum for Attorney General," September 19, 1958, *ibid.*

44 Wilbur Fugate for Files, November 13, 1959, *ibid.*

45 *Ibid.*

refining facilities. The Jersey decree also enjoined agreements and combinations between Jersey and any of its competitors to fix prices, agree upon quotas, or regulate production of foreign oil. Combinations involving Jersey (apart from permitted joint production and refining ventures) were also prohibited from allocating or limiting production of crude oil in any foreign country and from limiting the United States' imports and exports of crude oil and petroleum products. Jersey was also enjoined from agreeing with competitors to exclude third persons from competition in a foreign country in the production, refining, distribution or sale of crude oil. Finally, the multinational giant was prohibited from using exchanges of crude oil or products as a means of implementing divisions of markets or restricting imports into the United States.[46]

The Gulf decree followed very much the same lines as the Jersey settlement, except that in the case of Gulf, no marketing subsidiary was involved. However, Gulf had to consent to eliminate the restrictive marketing provisions of its contract with Royal Dutch Shell for Kuwait oil while setting aside 100,000 barrels per day of Kuwait production for a period of ten years for sale to independent companies.[47]

In presenting the consent settlements to Judge Cashin for his final approval and then releasing their terms to the press, the Justice Department purposely sought to avoid any reference to the foreign policy and national security considerations that had guided the course of the cartel case and determined its final outcome; instead, with State Department concurrence, it chose to mask the true purpose behind the settlements by presenting them strictly as victories for free trade at the expense of multinational cartels. However, those responsible for bringing about the final settlement made clear privately that foreign policy considerations – and not free trade – had been the principal cause for the settlements. "I do not intend to bring into my statement anything about national defense security factors or relations with foreign nations," Fugate explained to his superior, W. Wallace Kirkpatrick, in outlining the remarks he proposed to make to Cashin:

> If questioned as to why joint production, refining and pipeline ventures abroad were expressly not included in the judgments, I could remind the Court that we have previously taken the position that the

[46] Wilbur Fugate to Robert A. Bicks, November 17, 1960; Fugate to Lee Loevinger, April 13, 1961, *ibid.* See also Fugate to Bicks, October 3 and 10, 1960; Fugate to William D. Kilgore Jr., June 19, 1962, *ibid.* For the Department of Defense's agreement to the consent proposal, see Vice Admiral Burton B. Biggs to Robert A. Bicks, November 3, 1960, *ibid.*

[47] Wilbur Fugate to Robert A. Bicks, October 3 and 10, 1960; Fugate to Lee Loevinger, April 13, 1961, *ibid.*

legality of such joint ventures was mentioned in the complaint as having been used to implement the over-all conspiracy charged. . . . I could say, if pressed, that we did not consider that the case necessarily called for divestiture or separation of these joint interests, and, moreover, that there were questions of jurisdiction and foreign law involved. . . .

[The national defense argument which I would not go into, is, in a nutshell, that separating these joint interests at this time might jeopardize the position of United States oil companies abroad vis-à-vis the Russians.] [48]

As for the press release to the public, the State Department vetoed any language that appeared embarrassing to American oil interests abroad, such as the fact that Stanvac had had a billion dollars in sales the previous year. Instead, State chose to stress the fact that the settlement opened up markets to smaller American and foreign companies.[49]

Once the Justice Department reached settlement with Jersey and Gulf, the remainder of its case against Texaco, Socal, and Socony proved anticlimactic. Soon after the Jersey-Gulf settlements, Texaco indicated that it was also ready to negotiate a final consent agreement. Actually Texaco was finding its marketing relationship with Socal an increasing burden since Socal was insisting on a 50 per cent share of certain of Texaco's planned ventures abroad such as in refining. Texaco was eager, therefore, to divest itself of Caltex, believing that it was sufficiently strong on its own by now to compete abroad.[50] Moreover, the Jersey-Gulf settlements increased the public pressure on Texaco for a settlement. The major obstacle to an agreement was Texaco's desire to be able to enter joint ventures with other defendants and co-conspirators, action which the Justice Department expressly opposed. Also, Socal remained unwilling to break up Caltex, which was the government's principal objective in its suit against Texaco. Finally, however, Texaco yielded to most of the government's demands. In 1963 the corporation reached an agreement largely along the lines of the previous settlements with Jersey and

[48] Fugate to Kirkpatrick, November 10, 1960, *ibid.* According to Fugate, in accepting the consent settlements, Judge Cashin himself "commented on the critical situation existing in the Middle East and in foreign countries generally, and stated again to counsel for the other defendants that he thought that from the point of view of national defense and preserving American interests abroad, it was very important that the case be settled as to the other defendants." Fugate to Robert L. Bicks, November 17, 1960, *ibid.*

[49] Wilbur Fugate to W. Wallace Kirkpatrick, November 8, 1960, *ibid.*

[50] David I. Haberman for Files, December 7, 1961 and December 14, 1962, *ibid.* See also Oscar John Dorwin to Lee Loevinger, November 15, 1961 and Loevinger to Dorwin, December 4, 1961; Wilbur Fugate to Loevinger, December 12, 1961, *ibid.*

Gulf, except that Texaco obligated itself to cooperate with the government in bringing about the dissolution of Caltex.[51]

As for the two remaining defendants, they held periodic negotiations with the Justice Department in the years after 1963 in which they evinced some interest in settlement, especially since by now Socony had agreed to the divestiture of Stanvac and Texaco was seeking to break up Caltex. In 1967 Socal even acquiesced in the voluntary dissolution of Caltex's European assets, including all refining, marketing, and transportation properties in twelve European countries. But Socal would not agree to a similar dissolution in the sixty countries east of Suez or in France, Spain, and Turkey where Socal felt its marketing position was too weak to compete successfully without Caltex.[52]

Why Socony failed to agree to a consent settlement is not entirely clear except that its lawyers apparently felt the Justice Department would never take its case to trial, having gained the dissolution of Stanvac and the partial dissolution of Caltex and having won concessions in the areas of joint marketing and price-fixing.[53] In this judgment Socony's lawyers were correct. Despite the obvious limitations that dismissal of the case against Socony and Socal presented, even in the areas of markets and prices, and despite the possibility that dismissal might be construed by other defendants as cause to seek release from their previous consent settlements on the grounds of equity, the Justice Department decided in 1968 to drop its case against Socal and Socony. As one Department official, David I. Haberman, explained as early as 1966, by this time the case had become stale and the Department had "achieved just about all the really practical relief [it] could ever hope to gain even after successful litigation against Socony." [54]

Moreover, Justice lawyers dismissed as unlikely the possibility that the other defendants would use the dismissal of the suit against Socal and Socony as reason to overturn their own cases. As Haberman also pointed out, with much insight, the consent settlements protected these companies in their joint production, refining, and pipeline ventures abroad; the agreements amounted to giving these

[51] David I. Haberman to William D. Kilgore, Jr., March 1, 1963, *ibid.* Fugate, *Foreign Commerce and the Antitrust Laws*, 209.

[52] David I. Haberman to Alan Dobey, May 9, 1966, DOJ, 60–57–140. See also unpublished manuscript prepared for Socal by Neil H. Jacoby, "Post-War Changes in the Foreign Oil Industry" (1963) and Wilbur Fugate to Lee Loevinger, December 12, 1961, DOJ, 60–57–140.

[53] David I. Haberman to Alan A. Dobey, May 9, 1966, *ibid.* See also Wilbur Fugate to Donald F. Turner, February 14, 1967; press release of January 24, 1968, *ibid.*

[54] Department of Justice press release, January 24, 1968; David I. Haberman to Allan A. Dobey, May 9, 1966, *ibid.*

arrangements unofficial government sanction.[55] Foolish indeed would be the oil company executive who would risk losing this sanction by attacking the consent agreements on the grounds of equity.

This latter point goes to the heart of the oil cartel case and points out the fundamental weakness of the government suit after the Iranian settlement of 1954. Joint marketing and price-fixing agreements were only the most burdensome and difficult to maintain of the many parts of a scaffolding by which the oil majors controlled the world's flow of oil. Once these vertically integrated multinational giants had achieved control over the bulk of foreign crude through a complex of interlocking joint production, refining, and pipeline ventures abroad, the rest of their joint operation was really superfluous. They had achieved the stability of flow and, hence, of prices, that had been the purpose of the original "As Is" arrangements. No settlement that attacked the tail but not the head or body of the energy tiger could have more than a limited cosmetic effect in unsettling the stability of local market prices and conditions in the world's consuming nations.[56]

Conclusion

The oil cartel case has importance even beyond its eventual impact upon international markets and price structures. In the first place, it presents an excellent study of the way in which the Cold War intruded into the domestic affairs of the United States, modifying and distorting long held principles and programs in behalf of the enlarged postwar concept of national interest and security. In the oil cartel case, the nation's commitment to antitrust in foreign as well as domestic commerce was made subordinate to a perceived Soviet threat in the third world and to the need to assure a cheap supply of energy in the presence of the expanding Cold War.

Moreover, while the outcome of the case was largely determined by considerations of national security, it was also part of a continuing pattern of tension, frustration, and constraints within which antitrust action had developed and operated in the United States. In this

[55] David I. Haberman to Alan A. Dobey, May 9, 1966, *ibid*. It is perhaps significant in this respect that in 1968 counsel for Jersey made it clear to the Justice Department that Jersey did not desire dismissal of its consent settlement since "Jersey's overseas operations [were] presently guided by the provisions of the Jersey decree." David I. Haberman for Files, March 1, 1968, *ibid*.

[56] As David I. Haberman of the Public Counsel and Legislative Section of the Justice Department pointed out in 1966, "the real key to the economic power wielded overseas by the Cartel case defendants together with British petroleum and Shell at least since World War II, has resided in the complex of closely interlocked *joint* ventures which they control at some of the very industrial levels we have been foreclosed from challenging, viz., crude production and refining." Haberman to Alan A. Dobey, May 9, 1966, *ibid*.

respect it was an element of a yet larger pattern of private partnerships, cooperative arrangements, and government–sanctioned cartelization that has characterized federal oil policy since the beginning of the century. As Gerald Nash has written about American oil policy, "The first six decades of the twentieth century witnessed the development of a consensus by business and government concerning the ends and means of public policy. . . . If monopoly gave rise to the antitrust movement in the United States . . . oligopoly resulted in making government an arbiter." [57]

No one need doubt, therefore, Truman's and Eisenhower's sincerity in advocating free trade even as they followed contrary policies with respect to oil. No less an advocate of international free trade than Woodrow Wilson had supported antitrust immunity for certain combinations engaged in export trade when he deemed it in the national interest. In Truman's and Eisenhower's case, as in Wilson's, considerations of national interest instead of free trade ultimately determined their foreign economic policies and programs to the benefit of the oil industry.[58]

[57] Gerald D. Nash, *United States Oil Policy 1890–1964;* (Pittsburgh, 1968), 238.
[58] Kaufman, *Efficiency and Expansion*, 213-216.

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The New Deal, Cuba, and the Rise of a Global Foreign Economic Policy

¶ By early 1933 President Roosevelt's advisors concluded that the United States Government would have to play a direct role in the Cuban economy. That nation, economically dependent upon the North American sugar market and politically dependent through the Platt amendment that gave the United States the right to intervene in its internal affairs, was economically prostrate and on the verge of civil war. The United States proceeded to abandon both the free trade and protectionist doctrines that had divided the President's advisors for a program that structurally integrated United States-Cuban trade and employed federal funds to support cooperative Cuban leaders. All of this, Professor Benjamin believes, foreshadowed the massive foreign trade and lending programs so common to American foreign policy after World War II.

It is generally held that the intense domestic preoccupations of the early New Deal were complemented by a cautious and reactive foreign policy that responded to a strong mood of isolationism in the country. The generalization does not apply to Cuba, where the level and extent of United States involvement actually increased during the period. This article explores the background of this increased involvement and its relationship to later periods of United States foreign policy that were actively internationalist, and seeks to show that the New Deal policy toward Cuba in the early 1930s involved precedent-setting actions that helped to form the basis for the globalist perspective of the 1940s and beyond.

By the spring of 1933, economic depression and political dictatorship had brought the island of Cuba to the brink of economic collapse and social upheaval. The billion-dollar United States investment in the island was faced with ruin, and the regime of President Gerardo Machado, sustained for eight years by Wall Street loans and State Department policy, was engaged in what amounted to civil war

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against both moderate and radical opposition movements.[1] As conditions on the island deteriorated, pressure arose from United States investors, exporters, interventionist Congressmen, liberal reform organizations, and the exiled opponents of Machado for greater United States involvement in Cuban affairs.[2] Spurred by this pressure and by its own Wilsonian proclivities, the newly elected Roosevelt administration was already preparing to end the passive Republican policy toward Cuba.

THE WELLES MISSION TO CUBA

Well before inauguration day, Franklin Roosevelt's advisors had been in touch with both banking circles and Cuban exile groups, and three men in particular – businessman Charles W. Taussig, "Brain Truster" Adolf Berle, Jr., and diplomat Sumner Welles – were hard at work on a new Cuban policy. As early as January 1933, Welles had begun gathering materials on the situation in Cuba. That same month, Taussig and Berle travelled to Cuba in order to learn the stability of the Machado regime and to lay the groundwork for an economic solution to Cuban problems, possibly on the basis of a reciprocal trade agreement, which was a trade concept then under discussion by the "Brain Trust."[3]

Notwithstanding the chaos of the Hundred Days that followed inauguration, developments in Cuba were treated with great dispatch. Roosevelt, who had just appointed his old friend and unofficial advisor on Latin American affairs, Sumner Welles, to the post of Assistant Secretary of State, quickly "promoted" him on April 14 to be United States Ambassador to Cuba. So that he might wield effective influence over internal Cuban developments, the new Ambassador was authorized to employ two powerful instruments: the stick of the Platt Amendment, which gave the U.S. the right to intervene in Cuba, and the carrot of a new trade treaty. With these Welles was to enjoin the cooperation of the contending political factions in the construction of a compromise settlement that would pave the way

[1] For the movement against Machado, see Jules R. Benjamin, "The Machadato and Cuban Nationalism, 1928–1932," *Hispanic American Historical Review*, 55:1 (February, 1975), 66–91. Concerning U.S. support for Machado, see Jules R. Benjamin, "United States Hegemony in Cuba, 1880–1934," ch. IV, a manuscript to be published as a book in 1977 by Pittsburgh University Press.

[2] Requests for action sent to the State Department and the United States Embassy in Havana can be found in National Archives, Record Group 59, 837.00/3415–3460 and Record Group 84, F800Cuba/1933, v.15/Misc. Corr. (When National Archive documents are cited without reference to Record Group [R.G.], such documents are from R.G. 59, General Records of the United States Department of State, Central Files, 1930–1939.)

[3] Concerning other pre-inauguration discussions of Cuba by Roosevelt and his aides, see Benjamin, "U.S. Hegemony in Cuba," ch. V.

for a stable and friendly government and form the basis of a revitalized economic relationship between Cuba and the United States. This new relationship was to be based upon a revision of the existing trade treaty, which would restore the more than 80 per cent decline in United States commerce with Cuba. A complementary part of the policy was easier access for Cuba's sugar to the United States market. This would increase Cuban purchasing power for United States goods, preserve the value of the massive United States sugar investment, and stave off the very real possibility of social revolution in the island.[4]

The Cuban Precedent

This policy of pump-priming a foreign state's economy and reorganizing its politics does not fit the autonomist and isolationist image of the early New Deal. Indeed, the policy was in many ways more interventionist than New Deal domestic programs and certainly more aggressive than the Republican policy toward Cuba. A departure of this magnitude was facilitated by the shock of the depression, which forced many businessmen to considered centralized and managed paths toward recovery. The depression aiso ended the flow of private capital lending and investment abroad (much of which had indirectly supported United States export sales) and forced those interested in export promotion to look to public sources of funds. A change of policy was further expedited by the victory of the Democratic Party in the 1932 elections. The new administration in 1933 brought to Washington policy makers less enthralled than previous ones by notions of fiscal conservatism and more heavily pressed by events to experiment with governmental direction of market mechanisms.

As is made clear by the Cuban case, this willingness to intervene in economic affairs was not confined to the domestic arena. As a result of these new factors, the "Brain Trust" transformed Cuban policy from the holding operation it had become under the Republicans into a unique effort to employ federal machinery and revenues (in the form of loans, grants, tariff rebates, government-owned commodities, quota agreements, etc.) to enhance the economic position of the United States in Cuba and to create within the island the type of political regime and economic environment that would form the basis for further United States economic expansion.

[4] Welles' instructions are contained in *Foreign Relations of the United States*, 1933 (Washington, D.C., 1952), vol. V, 279–286.

Though federally-directed economic expansion abroad was an unsettling idea to many, including even some of its proponents, Cuba was perhaps the least controversial place to begin. The island was in many ways an extension of the United States economy, and the proposition that one could help promote domestic recovery by reviving the Cuban economy was deemed reasonable. Indeed, those who proposed it did not treat it as a great departure, and the systemic changes that it set in motion were more a matter of accretion than original design. So uncertain was the ultimate end that policy makers with very different visions of the proper path out of the depression came to accept this new Cuban program.

The innovations involved in Cuban policy were the result of contributions by four very different schools of opinion regarding foreign economic policy. First, there were such internationalists as Secretary of State Hull and Assistant Secretary Sayre, who advocated free trade as the principal solution to the depression. This group was the most orthodox concerning direct government involvement in private economic affairs. Nevertheless, they became the originators of a new activist Cuban policy due to their advocacy of government action to reduce foreign and domestic tariff barriers. They chose the vehicle of treaties of trade reciprocity (mutual lowering of trade barriers) negotiated by the State Department as a way around congressional protectionism and as a first step in the generalization of tariff reductions through use of the most-favored-nation principle. The free traders hoped to use a new Cuban trade treaty to show the commercial benefits of tariff reductions.

The second school of opinion influencing Cuban policy was that of autarky or protectionism, for which George N. Peek, administrator of the Agricultural Adjustment Administration, was a principal spokesman. This group accepted the demise of the free market and called for governmental action, not to integrate the United States and world economies but rather to separate the two more effectively. They called for strong tariff protection to help raise domestic price levels, though they did accept bilateral tariff agreements, which did not significantly undermine protectionism. Peek's primary concern was to relieve the domestic market of agricultural surpluses through their sale or barter to foreign purchasers on a bilateral basis. Autarkists opposed the emphasis upon tariff reduction in the Cuban program and worked instead to produce an economic agreement containing strict quotas on imports of sugar. They further sought to promote the sale of agricultural surpluses to the food-deficient island.

The third group contributing to the new Cuban program was a group of isolationists perhaps best described as "New World autarkists." This school opposed economic and political involvements with Europe and sought to establish a viable base for the domestic economy through closer economic ties with other Western Hemisphere nations. To this group, expanded commerce with Cuba or even a customs union with the island seemed a favorable development.

The final contribution was made by those few policymakers who could be called proto-Keynesian. These men of whom Adolf Berle and Henry Wallace are the best examples, accepted the need for government planning and even subsidization of foreign economic expansion. They alone believed that, sooner or later, foreign trade expansion would necessitate foreign market expansion and not merely the removal of trade barriers or the disposal of surpluses; and that, if necessary, the government should employ federal revenues to achieve this goal. To these men the idea of indirectly transferring federal funds to Cuba by means of a lowering of the tariff on sugar, thereby increasing the island's capacity to import, was an attractive one.[5]

The Question of Export Promotion

Protectionist forces had long been effective in influencing tariff legislation. After 1929, they were aided by the fact that the worldwide depression, which heightened autarkic sentiments in most industrially developed states, caused a large group of intellectuals, politicians, and business leaders in the United States to defect temporarily from their traditional allegiance to free trade. This group sought some new way of dealing with the threatening social and economic tensions caused by the depression. Their immediate concern was to end the condition of unprofitable sales, unused capacity, and unemployment in the domestic economy, and with this focus they were less willing than in the past to support programs of export promotion, especially if such programs appeared to work against domestic recovery. Though most of this group would return to an international orientation later in the decade, this period was one in which export schemes were granted consideration only if they were seen as extensions of, and not threats to, what was then considered a viable national recovery program.[6] Thus, a program to aid the impor-

[5] James M. McHale, "The New Deal and the Origins of Public Lending for Foreign Economic Development 1933–1945" (Doctoral dissertation, University of Wisconsin, 1970), 2–5 & 37–84. Lloyd Gardner, *Economic Aspects of New Deal Diplomacy* (Madison, Wisconsin, 1964), 14–39.

[6] Elliot Rosen, "Roosevelt and the Brain Trust," *Political Science Quarterly* (December, 1972), 562; Gardner, *Economic Aspects of New Deal Diplomacy*, 12–17.

tation of Cuban sugar and to revive United States exports to the island had to be designed to fit such criteria.

New Deal economic programs during 1933 focused primarily on inward-looking solutions to the economic crisis, as Roosevelt's most influential advisors accepted the proposition that domestic recovery necessitated a temporary disengagement of the United States economy from international economic influence. Although trade promotion was de-emphasized, it was not discarded, however, and trade projects supportive of recovery efforts were eagerly pursued.[7]

The capital- and goods-exporting sector of the economy, though diminished in status and influence, still retained great strength. Moreover, the internationalist sector of both major political parties could still command a hearing in the centers of governmental authority. The forces of this persuasion within the Democratic party were able to establish themselves in the State Department (a traditional bastion of economic internationalism) and were allowed to develop the outline of a program of trade expansion. Roosevelt, himself a liberal internationalist until the economic crisis, had appointed the Democratic Party's free trade leader — Cordell Hull — as Secretary of State, and retained Norman Davis, a strong Wilsonian, as an advisor on European economic and disarmament affairs. He also appointed Sumner Welles, an advocate of lower tariffs and increased imports from Latin America, as Assistant Secretary of State. Hull eventually brought in Francis Sayre, a confirmed free trader, to administer the trade program and retained such high level State Department internationalists from the Hoover years as Herbert Feis, William Phillips, and Stanley Hornbeck.[8] It was from this internationalist base in the State Department, with the cooperation of United States firms that had an interest in the island's economy, that the initiative for a new Cuban policy was developed.

Between Autarky and Internationalism

As Washington's Farewell Address announced the United States' withdrawal from the Old World balance, so the Monroe Doctrine announced her entrance into the balance of the New. After the Civil War, the United States expanded economically into the Caribbean and, after the World War, into South America. Many saw the United

[7] Rosen, "Roosevelt and the Brain Trust," 531–567: Rexford G. Tugwell, *The Battle for Democracy* (New York, 1935), 164–170.

[8] Gardner, *Economic Aspects of New Deal Diplomacy*, 13–17; Charles A. Beard, *The Idea of National Interest* (New York, 1934), 545–548; Herbert Feis, *1933: Characters in Crisis* (Boston, 1966), 77 and 102.

States sphere of influence in the Western hemisphere as a necessary corrollary to her abstinence from the European theater, and isolationists after 1929 generally exempted Latin America from areas covered by legislation designed to "keep America out of war."[9] During the depression, many such isolationists became "New World autarkists" and advocated an expanded United States sphere of influence in Latin America. Indeed, the tradition of hemisphere involvement became an important element of the program by which the Roosevelt Administration drew the nation back into Europe between 1939 and 1941. By defining his moves to aid Britain as ways of keeping war away from our shores, F.D.R. slowly expanded the boundary of the defensible until it reached halfway arcoss the Atlantic and encompassed such unlikely places as Greenland and Iceland. In this manner, Western hemisphere isolationism was made to serve not as a retreat from Europe but as a bridge to it.[10]

A similar logic applied to United States-Cuban relations in 1933. Past North American penetration of the Cuban economy, as well as the special political relationship sanctified in the Platt Amendment, allowed internationalists to defend an aggressive policy in the island as not actually a "foreign," but rather the extension of a "domestic," policy. The depth of the United States economic presence in Cuba made clear the relationship between United States and Cuban recovery. North American firms owned two-thirds of the island's sugar-milling capacity, and some 70 per cent of Cuba's trade was with the United States. This situation led proponents of autarky to conclude that Cuban purchasing power, and thereby United States trade, could be revived without introducing uncontrollable influences into the United States economy.

In 1933 and 1934, the main thrust of the New Deal recovery effort was centered in the National Recovery Administration (NRA) and the Agricultural Adjustment Administration (AAA). Despite the distinct nationalist and even autarkic nature of these programs, they reflected another theme of the early New Deal as well – the collaboration of government with the largest producing and processing units in agriculture and industry in programs of production and distribution planning.[11] Such planning mechanisms could be har-

[9] Robert Divine, *The Illusion of Neutrality* (Chicago, 1968), 154, 156, 193n, 314, 319–324; Edmund Lieuwen, *Arms and Politics in Latin America* (New York, 1961), 188, 192; Harold L. Ickes, *The Secret Diary of Harold L. Ickes* (New York, 1953), I, 514; Gardner, *Economic Aspects of New Deal Diplomacy*, 86 & 165–166.

[10] Arthur Whitaker, *The Western Hemisphere Idea* (Ithaca, N.Y., 1965), 159–160; Robert Divine, *Roosevelt and World War II* (Baltimore, 1970), 27–29; Dexter Perkins, *A History of the Monroe Doctrine* (Boston, 1963), 362.

[11] For the ideological underpinnings of the N.R.A. and A.A.A., see: William E. Leuchtenberg, *Franklin D. Roosevelt and the New Deal* (New York, 1963), ch. 3; Barton Bernstein,

nessed to a Cuban recovery program because of the integration of the Cuban economy with that of the United States. For example, because of the large amount of Cuban sugar sold in North America, no rationalization of the United States sugar industry was possible without some control over Cuban sugar production. Moreover, business-government cooperation in the domestic economy could easily lead to business-government cooperation in international trade. An important example of this tendency was the close liaison between the State Department and the leading United States firms doing business in Cuba, a liaison that arose during the study of a new trade agreement.

Even as the industrial codes and marketing programs were being hammered out in Washington, foreign trade forces were making renewed claims upon government attention. The April 1933 Convention of the National Foreign Trade Council called for the reciprocal lowering of tariffs, loans to facilitate trade, and the use of government leverage to break down foreign barriers to United States goods. The American Manufacturers' Export Association took a similar position.

One of the most audacious efforts made by United States export interests at this time was related to Cuban trade. In the spring of 1933, at the instigation of Juan T. Trippe, President of Pan American Airways, a group was formed composed of the Presidents or Chairmen of the Board of the ten largest manufacturing corporations involved in the Cuban market. This group, expecting that a revision of the existing trade treaty with Cuba would be undertaken by the new administration, commissioned Phillip Jessup – the personal economic advisor of the outgoing Ambassador to Cuba, Harry Guggenheim – to conduct a study of United States exports to Cuba. It was the group's expectation that such a study "would aid in restoring the Cuban market to United States exporters." Jessup was granted access to State Department studies during his research and his findings were presented to several government departments, where they were closely scrutinized. In addition, the influential "Cuban Chamber of Commerce in the United States," representing all major U.S. firms doing business in or with Cuba, asked Roosevelt for a new Cuban trade treaty so as to restore the market for United States goods in the island. During this period, moreover, the State Department received numerous complaints from individual export-

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ed., *Towards a New Past* (New York, 1968), 264–280; Paul K. Conkin, *F.D.R. and the Origins of the Welfare State* (New York, 1967), 34–44; Ellis W. Hawley, *The New Deal and the Problem of Monopoly* (Princeton, N.J., 1966), ch. 1–4.

ers, large and small, describing the decline in their sales to Cuba and urging that some action be taken. The State Department, as we have seen, had developed its own concern for reviving and recapturing the Cuban market, and proposals to achieve such a goal were already under serious consideration.[12] What remained was to cast these proposals in a form acceptable to those forces that clung to narrower concepts of economic recovery.

Reciprocal Trade Agreements

Owing to the strength of protectionist forces in Congress, and Roosevelt's desire to raise domestic price levels, trade expansion forces had to develop a procedure that would lower foreign barriers to United States trade while not exposing the United States market to a flood of low-priced foreign goods. Such one-sided sacrifice could only be expected from nations over which the United States exercised dominant political influence, or where the economies of foreign states were heavily dependent on access to the United States market. Because Cuba fit both of these prescriptions perfectly, the State Department placed great hope in a new trade treaty with the island. Moreover, as we have seen, the expectation of reviving what had been the sixth largest market for United States goods was of great material interest to that country's exporters.[13]

Reciprocal trade agreements, under controlled circumstances, had been accepted by Roosevelt's advisors as the best way to find markets for United States production abroad without disrupting domestic inflation programs. Interdepartmental meetings to draw up trade legislation had begun even before inauguration day. They centered around suggestions for granting the president authority to make bilateral reciprocal tariff reductions with foreign states by Executive Agreement. In April, Roosevelt announced that a bill to initiate "practical tariff agreements to break through trade barriers and to establish foreign markets for farm and industrial products," would soon be sent to Congress. The President had not yet concluded that

[12] National Foreign Trade Council, *Twentieth Convention – April 26–28, 1933* (New York, 1933), Final Declaration, vii-xv. Concerning the Jessup study for the Pan American group, see OF 159 Cuba, Box 1, "An Analysis of the United States Export Trade with Cuba," i–ii, F.D.R. Papers, F.D.R. Library, and R.G. 84, F800Cuba/1933, v. 9/631.00 letter dated May 24, 1933 from Juan Trippe to Welles. The letter from the Cuban Chamber of Commerce in the United States is dated April 4, 1933 and is in 611.3731/398. On the larger question of Latin American trade, see 610.113/51; 837.00/3481–1/2; 710/1518.

[13] Julius W. Pratt, *American Secretaries of State – Cordell Hull*, XII (New York, 1964), 107. For State Department concern with domestic protectionism, see 611.006/1296; 611.3731/387. For discussion of the Cuba trade, see 611.0031/377–1/2; 837.61351/624; 837.61351/657. The value of United States exports to Cuba had fallen from $200,000,000 in 1925 to only $27,000,000 in 1932, see 611.3731/503–1/2.

a program of domestic inflation was incompatible with some tariff reduction, and he hoped to display American willingness to join in an attempt to lower trade barriers in light of the upcoming London Economic Conference, which was seen as a last ditch effort to arrest the growing international monetary and trade chaos.[14]

The expectation that Congress would soon grant the president powers to make reciprocal trade agreements became an element of Cuban policy. Welles' mission to Havana was publicly described as an effort to solve the problem of depression in Cuba by a renegotiation of the 1903 trade treaty. As noted above, the United States Ambassador was to hold out the possibility of a new treaty as a way of gaining from the contending Cuban factions agreement to a political settlement. A new treaty was expected to capture for United States firms an even larger segment of Cuba's imports than had resulted from the preferential position granted them in the original document. Even before Welles arrived in Havana, the United States Commercial Attaché was reporting the "considerable time" spent in determining "how much our duty preferential should be increased to enable the United States to secure a greater share of the available business . . . ." In April, an extensive study was begun examining the lines of Cuban production that had grown up behind the Cuban Tariff of 1927 and the various customs charges imposed by the Machado Administration. Many Cuban industries were found to be "artificial," and it was expected that Cuba's desperate need for access to the United States sugar market could be used to break down the tariff protection behind which they operated.[15]

Those who urged a reciprocal trade program were extremely wary of protectionist and nationalist opposition and therefore chose carefully those states with which to begin negotiations. In general, the foreign nations to be granted reciprocity were to be those that traded an item not produced in significant quantity in the United States and that were the chief suppliers of that product in the United States market. In this manner, confrontation with a major protectionist lobby would be avoided, and the extent of most-favored-nation concessions would be severely restricted. As Francis Sayre, the Chairman of the Interdepartmental Committee on Commercial Policy, put it: "Our whole program was based upon finding places in the tariff wall where reductions could be made without substantial injury to

[14] *Foreign Relations of the U.S.*, 1933, I, 921–922; Henry J. Taska, *Reciprocal Trade Policy* (Philadelphia, 1938), 22–23.

[15] *Foreign Relations of the U.S.*, 1933, V. 278, 285; R.G. 151, BF.D.C., Report of Commercial Attaché Havana, Weekly Report for February 7, 14, 21, 1933 and April 11, 25, 1933. Also see 611.3731/390 and 637.113/29–67.

American producers." This defensive position by the internationalists was a sign of the strength of protectionism as well as the general desire to produce short-run gains in exports. Accordingly, the Presidential message on the proposed trade bill described the program as "highly beneficial to our export industry, especially agriculture, [and] entirely harmonious with reasonable safeguard for those of our producers who are subject to the competition of imports." [16]

While a reciprocal trade treaty with Cuba was almost ideal in terms of its capacity to increase United States exports and to limit third country concessions (almost all duty-paying sugar came from Cuba) it was potentially troublesome because it threatened to enhance the position of imports (sugar and, less significantly, tobacco and certain tropical fruits) that were in direct competition with a large domestic industry. Thus the political influence of the non-Cuban suppliers of the United States sugar market posed the greatest obstacle to the State Department's effort to achieve a new trade treaty with Cuba.[17]

The New Deal Sugar Program

While domestic sugar producers had repeatedly won increased tariff protection against Cuban sugar in the 1920s, their effort to keep the low-cost Cuban product off the United States market had become by 1933 an act of self destruction. The Cuban share of the market had been reduced from 57 per cent in 1922 to 28 per cent in 1932, and the sugar tariff now stood at a level higher than the price of the commodity itself. Even so, world overproduction, which the United States tariff — actually a subsidy to non-duty producers — had encouraged, so depressed the international price that even sales in the protected United States market were becoming unprofitable.[18] Thus by 1933, all segments of the sugar industry supplying that market were ready for some plan of market control that would raise prices. Because Cuba still sold enough sugar in the United States to affect the domestic price, no rationalization of the domestic market

[16] Dick H. Steward, "In Search of Markets: The New Deal, Latin America and Reciprocal Trade," (Doctoral dissertation, University of Missouri, 1969), 15–16 and 29–30; Francis B. Sayre, *Glad Adventure* (New York, 1957), 170 and 173.

[17] The non-Cuban suppliers were: 1) continental beet sugar growers and refiners, 2) continental cane growers in Louisiana and Florida, 3) insular cane sugar growers and millers in the Philippines, Hawaii, and Puerto Rico. This last group were all United States territories and thus within the tariff wall.

For a discussion of the United States sugar industry, see John E. Dalton, *Sugar: A Case Study of Government Control* (New York, 1937).

[18] Farr and Company, *Manual of Sugar Companies 1933*, 12th ed. (New York, 1933), 30; U.S. Tariff Commission, *Report to the President on Sugar*, Report #73 (Washington, D.C. 1934), 87 and 197.

could succeed without some provision for dealing with the massive low-cost production of the island. Even protectionists were forced to consider a new policy toward Cuba.

The new Administration had before it several precedent-setting proposals for re-organizing the United States sugar market. For several years, the Machado administration had been pressing for a lowering of the sugar duty and had even shown a willingness to accept quota controls on its sales to the United States. North American sugar companies in Cuba and continental cane refiners looked with favor upon a proposal (presented to the State Department in 1932) to stabilize sugar purchases for the United States market on a regional basis.[19] Roosevelt's advisors, for their part, were contemplating a program much like the colonial policies of European states that imported tropical sugar, which would define and regulate a United States sugar supply area and establish import quotas within that area, including one for Cuba sufficient to revive the island's economy.[20]

The United States Tariff Commission had been making a study of the sugar tariff for almost a year. A Commission field study in Cuba found that the depression had so reduced the normal cost of production on the island that Cuban sugar would continue to enter the United States market even under a greatly increased tariff level. Robert L. O'Brien, the Chairman of the Tariff Commission, communicated this view to the president in April 1933, concluding that the tariff could not protect the price of sugar in the United States and that the best policy for raising that price would be to limit supplies entering the domestic market. The Tariff Commission generally endorsed the quota system to control imports, and suggested a quota of two million tons a year from Cuba.[21]

The free traders in the State Department shrank from the use of that most evil of trade barriers, the quota. Nevertheless, they came to accept it because it held the promise of restoring the Cuban market for United States goods and because trade agreements with Cuba had always been treated as being in a special category. Thus a quota for Cuban sugar might not set a precedent for later trade agreements. Beet sugar interests, for their part, were fearful that the State Department and Cuban interests would have more influence over the level of a Cuban quota than they had had over the tariff.

[19] The regional marketing proposal is contained in 837.61351/657.

[20] Ernest K. Lindley, *The Roosevelt Revolution* (New York, 1933), 222–223.

[21] 611.373 Sugar/180, letter from Robert L. O'Brien to F.D.R. dated April 11, 1933; Records of the United States Tariff Commission, Box 21 (Sugar Schedule) letter from O'Brien to F.D.R. dated April 11, 1933; 611.0031/478 letter from Thomas Walker Page (Vice Chairman, U.S. Tariff Commission) to Hull dated April 20, 1933.

Like autarkists in general, they found the quota concept appealing. Yet they recognized that it could be used to undermine as well as strengthen protection of their market. Nevertheless, with the tariff now useless as a weapon, they had no alternative to bargaining with the other producing interests for some form of market control.[22]

The various rationalization schemes under discussion in the spring of 1933 were to be funnelled through the basic agricultural agency of the New Deal, the Agricultural Adjustment Administration (A.A.A.). Like its industrial analogue, the National Recovery Administration, the A.A.A. was a close-working association between government and the non-marginal commercial farmer. Because processors and traders rather than the numerous small growers were the dominant force in domestic sugar production, it was they who used A.A.A. machinery and by so doing were able to partly reverse the twelve-year record of high tariff protection for beet agriculture.

When the Agricultural Adjustment Act was passed in May 1933, sugar, because it was not a crop in domestic surplus, was not provided for under the production control provisions of the Act. It did, however, fall under the provision for voluntary marketing agreements, which could be licensed by the Secretary of Agriculture. At the request of the Secretary, a conference of the sugar industry in the United States was convened in June 1933 to work out such an agreement.[23]

Throughout the summer of 1933, the planters, millers, and refiners of sugar met and heatedly contested for their share of what was to be a closed sugar economy for the United States. Because Cuba was a foreign state, she could not be legally represented in a meeting of domestic producers. However, the major east coast refiners, who were the traditional consumers of low-priced Cuban cane, were represented, and several spokesmen for the A.A.A. sensitive to the ability of low-cost Cuban sugar to upset any price raising efforts that did not stabilize the island's production, argued in defense of Cuba during the meetings.[24]

As part of its activist Cuban policy, the State Department was pressing for a quota on Cuban sugar of two million tons a year or higher and a doubling of the preferential (i.e. discount) rate on Cuban sugar from the current 20 per cent to a level of 40 per cent

[22] 611.373 Sugar/182, Memorandum by Frederick Livezey (Office of the Economic Advisor) dated April 19, 1933, entitled "Cuban Sugar Quota Project."

[23] Allen Rau, *Agricultural Policy and Trade Liberalization in the United States, 1934–1956* (Geneva, 1957), 55–58; Dalton, *Sugar: A Case Study*, 75; Conkin, *F.D.R. and the Origins of the Welfare State*, 42–43.

[24] Dalton, *Sugar: A Case Study*, 77–83; 837.61351/637 Hull [Duggan] to Welles dated May 12, 1933; Henry Agard Wallace, *America Must Choose* (Boston, 1934), 1–3, 18–19.

below the full tariff. The other producing areas resisted such a quota for Cuba. Since the total of all quotas could not exceed the consumption estimate for the United States market, a larger quota for one producing group automatically lowered that of the others. After weeks of arguing and constant threats of withdrawal by one group or another, a tentative agreement was reached, which pleased none of the parties, least of all Cuba, which was granted only 1.7 million tons. Furthermore, quotas of all parties totalled more than the estimate of demand. Production at that rate would have failed to raise the price of sugar, the one goal on which all parties were agreed.[25]

Public hearings held in August achieved neither further accommodation nor a more workable proposal. By September, the decision on a sugar program, including quota allocations, was back in the hands of Secretary of Agriculture Henry Wallace for approval. Though the beet interests put great pressure upon him, the Secretary finally decided that the program would not cause production to be held to expected demand and thus would fail to stem the chaos in the sugar industry caused by abysmally low prices. Moreover, the program favored processors and refiners in such a way that any price increases that did occur would be absorbed before they reached the growers. On October 9, Wallace rejected the agreement. The demise of the industry's plan of rationalization saved Cuba from a program less benign than that favored by the State Department, and gave that Department the opportunity to lobby once again for a stabilizing quota for the island. When the new proposal inspired by the government was revealed in February 1934 the island's sugar industry received somewhat better treatment.[26]

The new sugar arrangement, the Jones-Costigan Act (May, 1934) granted Cuba a quota of 1.9 million tons, an amount that halted the decline in Cuban sugar imports and set them at a level that both saved Cuba from total bankruptcy and salvaged the $600,000,000 United States sugar investment in the island. Moreover, the tariff on Cuban sugar was reduced over 50 per cent. Thus, in the end, the State Department's efforts to obtain quota and tariff levels on Cuban sugar sufficient to form the basis for social stability, the protection of investments, and the revival of United States trade, was finally crowned with success.[27]

[25] 611.373 Sugar/194; Dalton, *Sugar: A Case Study*, 80–81.

[26] *Ibid.*, 134–135; Benedict and Stine, *Agricultural Commodity Programs*, 292–293; Dalton, *Sugar: A Case Study*, 84–91.

[27] In return for withholding plantings, domestic beet sugar producers were granted money compensation. Concerning the Jones-Costigan Act, see Dalton, *Sugar: A Case Study*, 92–106,

The New Deal and Cuban Trade

While the questions of quota and tariff were passing through the congressional mill, the other element of Cuban policy – the renegotiation of the reciprocal trade treaty of 1903 – was also going forward. In return for better treatment of its sugar, Cuba was expected to reduce its import charges on United States goods. As noted above, both business interests in the Cuba trade and the State Department had been working to reduce Cuban tariff barriers to United States goods. At this point, the Cuban government fell apart. Negotiation of a new trade treaty, begun with the Machado government in June 1933, had to be suspended when that regime was overthrown in August and the American-supported Céspedes regime that replaced it was itself removed in September by a radical nationalist government headed by Grau San Martín. The United States refused to recognize Grau and, in fact, began a program of economic and political "destabilization" designed to force his removal.[28] While the State Department worked to undermine Grau's regime, United States trade negotiators continued to formulate among themselves the new commercial proposals that would be presented to a more co-operative Cuban government.

By the fall of 1933, trade expansion forces in the United States – both the bilateralist-autarkists and the multilateralist-internationalists – were focusing on the Cuban market. The decline of Cuban trade had exceeded that of the United States with almost every other nation. Moreover, Department of Commerce figures, which had been showing over the previous four years the immense decline in the *value* of United States trade with Cuba, began for the first time to show a decline in the United States *share* of the Cuban market. Devaluation of European and Japanese currencies had preceded that of the American, and their goods – despite the preferential tariff rates on United States products – were biting into the traditional United States domination of the Cuban market. Moreover, the dismally low level of purchasing power in Cuba put many United States products out of the reach of the island's consumers. The trade treaty formulators therefore desired not only to restore Cuban purchasing power by easier entry of Cuban sugar into the United States, but to

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252–255; Raymond Leslie Buell, *Problems of the New Cuba* (New York, 1935), 258–263; 611.3731/503-1/2; 811.6135/67, 77, 91.

[28] For the United States effort to overthrow the Grau government, see Benjamin, "United States Hegemony in Cuba," ch. IX.

so arrange the island's tariffs, tariff preferences, and custom taxes that the United States would reassert its dominance in most lines of Cuban imports. Because there were also North American products for which Cuba herself was the main competitor, the trade negotiators also set their sights on certain of the island's domestic lines of production.

The major studies produced during this period by both Phillip Jessup for the United States export community and by the American Consul in Havana concluded that the United States was losing its share of the Cuban trade and that to restore her "competitive" position, the precise impediment (tariff, preference, classification, customs charges, internal taxes, etc.) for each line of United States exports would have to be determined and remedied in a new treaty.[29] Requests from United States exporters and the business and government analyses of Cuban tariff barriers were placed before the Cuba Subcommittee of the Interdepartmental Advisory Board on Reciprocity Treaties, which had been formed in July 1933. By January 1934, this group had codified the concessions to be requested in a new trade treaty. It was expected that Cuba's dire need for economic relief (there was actual starvation in the countryside) and her extreme dependence on the United States market for her sugar would make her amenable to granting major concessions.[30]

In late January, the radical-nationalist Grau regime succumbed after four months of Washington's refusal to grant recognition or economic relief. The Cuban army, led by Fulgencio Batista and encouraged by the American Ambassador, overthrew Grau's government and installed as President, Carlos Mendieta, who pledged co-operation with the United States. With a friendly regime in place, the United States presented its trade proposals. To sweeten the pill for domestic agriculture, United States demands included not only the removal of barriers to finished goods, but to agricultural produce as well. Because of its dominant position, the United States easily gained Cuban agreement to extensive tariff preferences and

[29] R.G. 151, B.F.D.C., Report of Commercial Attaché, Havana, September 30, 1933, "Cuba's Foreign Trade during the First Five Months of 1933"; OF159 Cuba, Box 1, "An Analysis of the United States Export Trade with Cuba," by Phillip Jessup, presented to the Honorable Franklin D. Roosevelt, dated July 10, 1933, F.D.R. Papers; 637.113/28–73 "The Effects of Increased Cuban Tariffs upon Imports from the United States"; Box 19, letter from Mario Lazo to Jessup dated August 24, 1933 and Jessup "An Analysis of the U.S. Export Trade with Cuba," pp. 30 and 101, Phillip Jessup Papers; R.G. 151, B.F.D.C., 046Cuba letter W. L. Thorp (Director B.F.D.C.) to Juan Trippe dated November 1, 1933.

For a discussion of Japanese competition, see 610.9417/4, 7 and 11; R.G. 151, B.F.D.C., Report of the Commercial Attaché, Havana, Special Report #4, September 28, 1933.

[30] R.G. 151, B.F.D.C., 041.2Cuba, Correspondence from Export Firms; R.G. 353, Records of the Inter Departmental Committee on Reciprocal Treaties, 1933, Box 1, Minutes of the Meeting of the Committee for South America, September 25, 1933; R.G. 16, Correspondence File of the Secretary-Executive Council, 1933, Reports from the Secretary of State, October–December 1933; 611.3531/232.

the reduction of non-tariff barriers on United States goods. Consequently, the United States was able to reverse the decline in its share of Cuban trade. By the end of the 1930s, its trade with the island had expanded by some 70 per cent in volume and 300 per cent in value. Thus United States-Cuban trade relations in 1933–1934 illustrate an aggressive form of trade promotion on the part of the early New Deal and a willingness to interfere in the affairs of states considered within the United States orbit.[31] This, too, prefigures the policies of a later period.

The New Deal and the Cuban Debt

Complementary to trade and tariff renegotiation, New Deal policy toward Cuba contained a program for debt renegotiation. There was no prospect of Cuban stability unless debt repayment could be made consistent with the greatly decreased revenues of the island's Government. On the other hand, as a creditor nation the United States could not countenance debt repudiation or default. The State Department had to steer a narrow course between Cuban bankruptcy and the "legitimate" demands of the United States bankers who had underwritten $150,000,000 in Cuban securities.

By the end of 1932, Machado, the ever faithful debtor of the National City Bank and the Chase National Bank, had been driven to the wall. Unpaid government salaries and pensions totalled more than the entire yearly revenue of the Cuban Government, and even the last buttresses of the regime, the army and police, were threatened with empty pay envelopes. The bankers, supported by the State Department, refused to countenance any additional borrowing to ease this internal debt for fear that the bonds they held would drop further in value. Nevertheless, by the spring of 1933, after Cuba had mortgaged every asset and pledged future government revenues, default seemed inevitable. To protect the value of their securities, the banks agreed to another short-term credit and a juggling of the repayment schedule so as to buy time.[32]

The new debt settlement notwithstanding, Machado, as noted earlier, was overthrown in October 1933. Sumner Welles was eager to grant swift and substantial economic aid to Machado's successor, Carlos Manuel de Céspedes, whom the Ambassador had helped into

[31] *Foreign Relations of the U.S.*, 1934, V, 129–134; U.S. Department of State, "Trade Agreement signed by the United States and Cuba," *Press Releases*, August 24, 1934; U.S. Tariff Commission, *Foreign Trade of Latin America* (Government Printing Office, 1942), Part II, vol. 2, 249–253; 611.3731/581A, 583, 609A, 612A, 684, 732A, 733, 803, 879, 1391-1/2, 2038.

[32] *Foreign Relations of the U.S.*, 1933, V, 546.

the Presidential Palace. The pathbreaking forms of financial assistance put forward at this time also reflect the sophistication of a later period, and mark Cuban policy as a forerunner of large-scale government-to-government assistance programs on the part of the United States.

The United States Ambassador proposed drastic and unprecedented action. He suggested, in effect, that the United States government take over the financing of the Cuban state from the bankers. Welles deemed a moratorium on the Cuban debt to be essential from both the economic and political points of view. Because such an act would preclude any further cooperation from the bankers, and because the entire Cuban civil service was threatening to walk out if not paid some of their back wages, Welles stated that a loan from some other source to meet these salary payments must be forthcoming immediately, or the government would fall. Where could the money come from? At a time when the government had not yet learned to use its tax revenues in direct support of foreign policy objectives, the early Good Neighbor diplomats had to rack their brains for a legal way of keeping the Céspedes government afloat.[33]

Various emergency financing proposals were aired in late August 1933. Welles relayed a scheme whereby the United States Government would transfer to Cuba title to a sum of United States Treasury notes, which would be held by a United States bank in Cuba as trustee. The bank would discount the Notes with the Federal Reserve and deliver the cash to the Cuban Government. Cuba would pay for the bonds over a period of time. The Treasury Department, which had no authority to make foreign loans, found the measure "of most doubtful legality," but promised to study the matter. The United States banks involved in Cuba, while skeptical of any proposal that was merely a camouflage for default, were willing to consider this plan for "lending" United States Treasury bonds to Havana. They eventually agreed to the proposal, but only on the condition that the United States government guarantee them against loss.

Another ingenious device, proposed by Charles Taussig, was for the United States silver producers to accept Cuban bonds in return for the sale to the Cuban Government of $5,000,000 worth of silver. The producers could then discount the bonds for a $5,000,000 loan from the Reconstruction Finance Corporation. With the silver, the Cubans could create $15,000,000 in coinage to be used to pay its internal debts. Roosevelt was intrigued with this solution and sev-

33 *Foreign Relations of the U.S.*, 1933, V, 578–580.

eral versions of it were under study at the State and Treasury Departments. The president favored a renegotiation of the Cuban debt and in fact had his own pet idea about Cuban recovery, which involved United States support for a "back to the land movement" among landless rural workers.[34]

On August 31, Adolf Berle (on this occasion as special counsel for the Reconstruction Finance Corporation) and two Treasury officials left for Havana to work out the details of a financial aid program. Their report, submitted on September 5, set out a broad program of debt refinancing, proposing that Cuban Government revenues be allocated first to general expenses and back-salary claims and only then to debt repayment. This proposal reflected new policy priorities by placing Cuban stability ahead of the interest of the banks. It did not come in time, however, to save the Céspedes regime, which succumbed on the night of September 4–5, 1933.[35]

During the incumbency of the uncooperative Grau regime (September 1933–January 1934), all programs of debt relief were shelved. Indeed, all forms of economic aid ceased and were replaced by a program of economic denial. For example, in place of the imaginative program to have the R.F.C. finance the lending of silver for coinage, the State Department now embargoed even the delivery of Cuban coins, which had been minted in the United States under a contract signed during the Machado regime.[36]

As with the issues of trade and the tariff, debt relief programs were trotted out once the Grau regime had been deposed. Two weeks after the Batista-installed regime of Carlos Mendieta had come to power, Roosevelt granted the Havana government a $2,000,000 credit with which Cuba could purchase "food relief" from the surplus stocks of the Agriculture Department. This idea was also typical of the innovative nature of the New Deal program for Cuba. It represents an early expression of tied aid. This aspect of the Cuban program was the contribution of autarkist forces within the U.S.D.A.

[34] *Ibid.*, pp. 578–580; Box 37 (State Department) "Possible Plan for Emergency Financing in Cuba," Charles Taussig Papers; 837.51/1579–1/2, 1582–1/2, 1588, 1611; R.G. 84, F800Cuba/1933, vol. 18/851.0, Nufer to Welles dated August 19, 1933.

[35] *Foreign Relations of the U.S.*, 1933, V, 581–588; 837.51/1612–1/2 "Schedule A" and "Supplement."

[36] For the withholding of silver coinage, see *Foreign Relations of the U.S.*, 1933, V, 568–569; 711.37/200. For the delay of disaster relief, see 837.48Cyclone of 1933/1–6, 10, 30. For the withholding of United States funds from the Havana-based Inter American Trademark Office, see 710.D4/492–504.

The systematic effort by the United States to deprive the Grau government of economic assistance and even normal economic intercourse again marks Cuban policy as a forerunner of later policies that punished uncooperative or hostile regimes by withholding of capital, manipulation of market prices, embargoes, etc. Economic "destabilization" was an important component of the policy by which the United States was able to remove Grau from office. See Benjamin, "United States Hegemony in Cuba," ch. X.

The concept seems to have arisen during the desperate attempt to shore up the United States-sponsored Céspedes government in August 1933. The A.A.A. had received an offer from the Soviet Union to buy sugar. At the same time, the packing-house industry was pressing A.A.A. to find an outlet for its enormous stocks of lard. Finally, the Cubans were badly in need of lard. The problem was that neither the Soviets nor the Cubans could pay cash. The A.A.A. came up with the idea of a triangular deal. A.A.A. would exchange lard for sugar with Cuba and would then finance the sale of the sugar to Russia through the R.F.C. The packers added the suggestion that, in return for taking Cuba's surplus sugar, she might be induced to lower her duties on pork and pork products. While this particular deal did not go through at the time, the A.A.A. (sitting on growing surplus agricultural stocks) and the pork farmers (with their eye on the Cuban tariff) continued to press for "humanitarian" relief to impoverished Cuba. Eventually both goals were achieved after the restoration of a pro-United States regime.[37]

A final precedent-setting aspect of the New Deal economic settlement with Cuba was the program of trade credits. Prior to the creation of a specific federal vehicle for trade financing, great ingenuity was required. Most efforts to aid Cuba (and United States exporters) had focused on the R.F.C. and represented an attempt to expand the limited credit-creating functions that the Hoover Administration had assigned to this agency. To rationalize the Cuban credit program an Export-Import Bank was created in March 1934. Its first loan was for $3,800,000 to enable the friendly Mendieta government to purchase silver in the United States for coinage. This allowed the Cuban government to stabilize itself by paying the back salaries of the military and civil servants and at the same time satisfied the demands of the western silver-producing states for relief for their "surplus" commodity.[38]

Conclusion

The creation of the Export-Import Bank for Cuba in 1934 was the culmination of those proposals for a Cuban recovery program initiated in the spring and summer of 1933 by Adolf Berle, Charles

[37] 837.48Relief Measures/1, 1–1/2, 1A, 2; 611.3731/480–1/2, 482–1/2, 483–1/2.

[38] The first Export-Import Bank had been set up a few months earlier in order to accomplish a like result with the U.S.S.R.

Mendieta received a second loan for the same purpose in the amount of $4,400,000 in December 1934. Further relief was provided by acceptance of a debt moratorium. See 837.51/1643, 1772, 1782, 1889–1/2, 1909–1/2; Smith, *The United States and Cuba*, 163, 170; Edgar B. Nixon, ed., *F.D.R. and Foreign Affairs* (Cambridge, Mass., 1968), I, 663–664.

Taussig, Sumner Welles, and others. This innovative Cuban policy can be seen as an important step in the evolution of a structural meshing of private economic and public political interests. The program envisioned for Cuba went well beyond the tradition of "dollar diplomacy"; it was broader in its aims than that attempt to create positions of strength for United States foreign policy by facilitating the movement of private capital into less–than–secure foreign investments. Furthermore, it went beyond the export promotion, political protection, and mobilization and channeling of private foreign lending characteristic of Herbert Hoover's years as Secretary of Commerce and later President. New Deal Cuban policy represented a governmental attempt to direct and enhance private trade and property abroad in such a way as to *develop* a foreign market rather than merely gain greater access to it. Finally, the Government was willing to underwrite the risks of such an operation with federal funds and by means of newly created or newly utilized federal authority.[39]

Cuban policy not only signified a break with the past, it also pointed the way toward the future. The hesitancy of private lenders to take risks that depended upon the cooperation and stability of foreign governments, combined with Washington's growing willingness to use the strength of the United States economy to support foreign policy would lead in later decades to the creation of massive federal foreign–lending institutions. Spurred by the forced mobilizations of World War II and the Cold War, the use of national tax revenues to underwrite policy would be elaborated into broad programs of foreign "aid" and loan and investment guarantees. New attitudes and governmental machinery would tie United States economic expansion to distant economies and make this nation the centerpiece of a global economic structure.

The use of such early federal financial institutions as the Reconstruction Finance Corporation and the Export-Import Bank to protect and enhance United States interests in the island mark Cuban policy as one of the earliest expressions of this development. The genesis of the expansionist and internationalist outlook, usually associated with the years of World War II, thus can be found in the earliest ruminations of the "Brain Trust," and, in the case of Cuban

[39] In recent years, scholars have tended to interpret New Deal economic policies as illustrating greater continuity with those of the Progressive tradition and the Hoover administration. Nevertheless, what appeared in the early thirties as doctrinal carry-overs had become by the late forties qualitative distinctions of great significance. On this subject, see: William A. Williams, *The Tragedy of American Diplomacy* (New York, 1972), ch. V; Barton Bernstein, "The New Deal: Conservative Achievements of Liberal Reform," in *Towards A New Past* (New York, 1968), 263–288; Robert N. Seidel, "Progressive Pan Americanism: Development and U.S. Policy, 1906–1931" (Doctoral Dissertation, Cornell Univ., 1973), 640–645 and 649–654.

policy, was in the process of formulation as early as the winter of 1932–1933. That this period is considered to be one of intense isolationism and economic autarky makes such a finding all the more provocative and attests to the profundity of the expansionist impulse within the political economy of the United States.

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Reflections on George Rogers Taylor's *The Transportation Revolution, 1815-1860:* A Twenty-five Year Retrospect

"All books are dead in twenty-five years," Mr. Justice Holmes wrote to Sir Frederick Pollock. An example of Holmes' mastery of the art of overstatement, the dictum has its notable exceptions, as even a relatively young discipline such as economic and business history reveals. Professors Scheiber and Salsbury make the case for the permanent impact of one such exception. At the Editor's discretion, communications like the following may be published in the future about other milestones.

George Rogers Taylor once observed that "stages, periods, eras and epochs are devices commonly adopted by historians . . . , [to serve] as the boxes, the pigeonholes, into which the elusive, tangled and intractable materials of history are filed in order to render them more manageable and comprehensible." [1] Few scholarly works have defined an era and provided a conceptual framework for its analysis more successfully than Taylor's *The Transportation Revolution, 1815–1860.*[2] Its publication in 1951 was the capstone of several decades of rich monographic scholarship, by Taylor himself and many others. The historical profession immediately hailed Taylor's work. It has been widely used in undergraduate courses; it is every sensi-

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[1] Taylor, "Stage Theories of Economic History," in Taylor and L. F. Ellsworth, eds., *Approaches to American Economic History* (Charlottesville, Va., 1971), 24.

[2] New York, 1951. This was one of the volumes in the distinguished series, *The Economic History of the United States,* edited by Henry David and others. Taylor's volume, originally published by Holt, Rinehart & Winston, was subsequently published in paperback by Harper & Row.

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ble doctoral candidate's "Michelin Guide" to the region it covers; and it is one of those indispensable volumes to which the teacher and researcher in economic history repeatedly returns. Finally, *The Transportation Revolution* provided historians with a preliminary – but as time has proved, sage and insightful – set of suggestions for the exploration of terrain relatively unexplored in 1951. Now, some 25 years after the book's appearance, this essay attempts a reappraisal of it both as a work of synthesis that "rendered comprehensible" complex materials and as a study that has influenced subsequent scholarship. It is our hope that this essay will also serve to pay tribute to a valued friend and fellow scholar who has enriched and enlivened the field of economic history.

Taylor's Synthesis

The great tradition of American historical scholarship is the monograph, with its unique requirements of discipline and rigor in the systematic analysis of a carefully designed research problem. That tradition, which encompassed economic history, began with the emergence of professional graduate study just before 1900 and con-

tinued down to the 1940s, when Taylor's book was being written. But economic historians had also produced some outstanding works of synthesis during that period: Lewis Gray's history of southern agriculture, Victor S. Clark's history of manufacturing, and Joseph Schumpeter's study of business cycles, all set a high standard.[3] *The Transportation Revolution* not only matched this standard but also was of wider scope than these earlier landmark works. Moreover, Taylor's study reflects the best tradition of monographic scholarship fused with synthesis. The book presents a massive base of empirical data, drawn both from earlier scholarly studies and original sources; and the interpretive conclusions are explicitly reached by a process of systematic argument from those data. The book bristles with profound insights, but the reader is never left to take on faith the author's private distillation of ideas.

Despite its title, *The Transportation Revolution* deals, of course, not only with transport change but also with the development and impact of pre-1860 industrialization. Moreover, the book provides what is even today the best published overview and analysis of public economic policy in the antebellum era. Because the book, apart from its other merits, is a *summarium* of the research accomplished through the 1940s in the field of economic and business history, it is worth probing briefly the main secondary sources on which Taylor drew. First, there was the large and important body of historical price data accumulated both by individual scholars and those associated with the Committee on Price History. The price data constituted one of the major research achievements of the day, a *corpus* of work that subsequently has provided an indispensable foundation for modern studies of national income and commodity series (especially the studies sponsored by the National Bureau of Economic Research). Thomas Senior Berry's study of western prices and trade flows, Arthur Cole's work on wholesale prices, and other similar efforts permitted Taylor to build a solid foundation for generalizations about the integration of a truly national economy, one of the central contributions of his book.

Second, Taylor incorporated into his overall synthesis and into sectoral analyses the frustratingly encyclopedic, often-fragmented materials produced by the several Carnegie Institution studies that did not attain the high standard set by Lewis Gray and Victor S. Clark.

3 We do not provide full citations of secondary works cited in this study, with a few exceptions. Bibliographic information is readily obtained from George Rogers Taylor, *American Economic History before 1860* (Goldentree Bibliographies in American History, ed. Arthur S. Link) (New York, 1969).

Third, Taylor drew upon the first fruits of the monographs then appearing, under auspices of the Committee (now Council) on Research in Economic History, that were analyzing the problem of *laissez-faire* versus interventionism in the economic policies of individual states in the antebellum period. Together with Edward Kirkland's work on New England, these studies were overturning the widely-accepted popular conception of the antebellum states as passive actors in the drama of economic development.[4] Taylor undoubtedly magnified the impact of these studies by endorsing their revisionist appraisal. Moreover, he drew upon them tellingly to illustrate another central theme: the view that local commercial rivalries had influenced the pace and timing of major transport innovations.

Taylor exploited a fourth, closely related line of scholarship, the work on industrial and entrepreneurial history that came mainly from Harvard in the 1930s and 1940s. Paul Gates had examined railroad politics, finance, and land management; Arthur Cole, Harold Williamson, Evelyn Knowlton, and others had illuminated the history of textiles; Kenneth Porter, George Gibb, and colleagues had done the same for individual entrepreneurs and firms. If the "golden age" of entrepreneurial history still flourishes, it had already emerged brilliantly before 1951, and so Taylor could mine a rich lode of data. In his narrative on the industrial sector, Taylor accepted the concept of "mercantile capitalism," which gave way to "industrial capitalism" and "finance capitalism," in the Marx-Schmoller-Hacker tradition. Thus, *The Transportation Revolution* contains finely-etched illustrative material on the mechanisms by which new firms were organized and financed, managerial techniques, and the diversity of responses by industries and individual firms to changing market opportunities generated by transforming innovations in transport.

In addition, Taylor used the larger *corpus* of specialized studies illuminating major problems in the economic history of the period. Among the most important of these for him was Robert Albion's *Rise of New York Port,* with its stress on mercantile organization, urban rivalry, and the relationship between transport innovation (in this case the Erie Canal) and urbanization patterns. Albion reinforced one of Taylor's major hypotheses, that "the leading business and professional men of each city were bound together in a com-

[4] These works are analyzed in Robert A. Lively, "The American System: A Review Article," *Business History Review,* XXIX (March, 1955); and reappraised, along with subsequently published studies, in Harry N. Scheiber, "Government and the Economy: Studies in the 'Commonwealth" Policy in Nineteenth-Century America," *Journal of Interdisciplinary History,* III (1971), 135–151.

munity of interest, in city-states not unlike those of ancient Greece in which the desire for the benefits of commercial growth and prosperity, reinforced by civic pride and local patriotism, led to long and bitter warfare . . . [or] a sort of metropolitan mercantilism." Similarly, a distinguished group of studies on banking and financial history had explored aspects of both institutional change and public policy — works by Fritz Redlich, Esther Taus' study of central-banking functions of the Treasury (an important monograph that had had little impact until Taylor's work appeared), Bray Hammond's early essays, and the older history of the Second Bank of the United States by Ralph Catterall. (Taylor also integrated into the analysis the research of Harry Miller, Leonard Helderman, and Margaret Myers.)

Taylor accepted the principal substantive finding of most of these studies — that the Second Bank had performed well its fiscal and central-banking functions. But on several counts he departed from the conventional interpretations. First, he recaptured the context and spirit of pre–1860 debates over banking by stressing that the BUS could hardly be considered a "responsible" institution, controlled by the government. Second, he argued against judging anti-BUS and anti-banking critics of the Jacksonian era by critical standards derived by modern scholars from long experience, a century later, with advanced central banking. And third, he proposed an intriguing and (as it proved) controversial question as to whether relatively uncontrolled banking may in fact have served to stimulate economic growth in the pre–1860 period.

Finally, *The Transportation Revolution* brilliantly integrated Taylor's own and other scholars' research on technological and labor history with materials of broader scope in economic and business history. Thus he drew heavily on the pathbreaking studies of Louis Hunter on steamboats, Edward Kirkland on railroads, and Victor S. Clark on manufacturing. Similarly, as a base for his highly original chapters on manufacturing and labor, Taylor exploited works by Vera Shlakman, Norman Ware, Caroline Ware, and John R. Commons. In his section on labor history, as in his consideration of *laissez-faire* and interventionism in the antebellum economy, Taylor evaluated major new research and integrated it into his book. Arthur Schlesinger, Jr.'s *Age of Jackson* had generated a sharp controversy over the relationship between workers and the Jacksonian Democracy; and the first fruits of Joseph Dorfman's seminar at Columbia (works on the status and politics of the Workingmen's movement) were just appearing. In *The Transportation Revolution,* Taylor

skirted narrow political questions such as the actual party affiliations of the workers; instead he focused upon the relationship of workers' movements to radicalism in its ideological dimension, giving only slight attention to the alleged political and voting linkages that Schlesinger had contended were evident. This, as later work has proved, demonstrated reliable instincts.

Taylor's Original Contributions

The heritage of scholarly studies available to Taylor, impressive as it was, covered many topics but by no means all that are the core concerns of *The Transportation Revolution.* Retrospective consideration suggests how many lacunae remained — important areas of analysis that had been left relatively unexplored. And here Taylor's own achievement comes to the fore, both in the novel conceptual structures with which he recast major topics, and in original research of his own.

Of these contributions, one of the most valuable was a technical *tour de force:* the determination, from a vast array of contemporary sources, of the rapidly changing costs of transport in the 1815–1860 era. This monographic effort, embodied in Chapter 7 of *The Transportation Revolution,* provided the first reliable delineation of the "transportation revolution" in its essential structural dimension. Although not all of Taylor's data have stood entirely the test of further research (for which Taylor himself has called urgently on many occasions), his efforts provided the profession with a landmark statistical contribution.[5]

At a more general level, *The Transportation Revolution* established a conceptual framework that has endured, intact, through two decades of reappraisal: he contended that over the 1815–1860 period "the colonial orientation of the American economy" gave way "and a national economy [took] its place." In explaining this process, Taylor stressed: technological innovation; public investment in the transport sector; public policy more generally, including corporate law, taxation, and subsidy; and the role of urban and commercial rivalries that impelled organizational efforts and private, as well as governmental, transport promotion. In sum, Taylor established that "the transportation revolution" was not solely a series of transformations in technology and in the transport sector itself, but an integral

[5] For some revisions of Taylor's data, see Albert Fishlow, *American Railroads and the Transformation of the Ante-bellum Economy* (Cambridge, 1965); and Harry Scheiber, *Ohio Canal Era: A Case Study of Government and the Economy, 1820–1861* (Athens, Ohio 1969), chs. 9–10.

element in industrialization and in the process of economic integration. If these themes bore the hallmarks of suggestions set forth much earlier by Guy Stevens Callendar and Louis Schmidt, Taylor advanced the analysis in a distinctly qualitative sense and not merely in degree.

Also of striking originality was Taylor's analysis of America's antebellum agricultural and industrial labor force. Here he pieced together widely scattered fragments of material on working conditions from contemporary journals, government reports, and other sources. He also gave full attention to the themes that prior to 1951 had been the staples of labor history, represented by work such as Norman Ware's and Commons': unionization (of a tiny minority of workers, in only tens of thousands), the legal status of labor, and the interplay between worker organizations, intellectual reformers, and politics. But Taylor went further, by placing equally at the forefront of his analysis such sociological problems as the changing organization of work, the recruitment and discipline of industrial workers, and working-class culture. He had been anticipated by Caroline Ware and a few others, and he did not explore these themes in the depth subsequently achieved by Edward Kirkland or Herbert Gutman.[6] Nonetheless, Taylor's approach was substantially different from what a recapitulation of existing work would have produced.

Taylor also grappled with the sorely inadequate data on real wages and living standards, confessing that he could not confidently reach definitive conclusions. In this area, the recent scholars Stanley Lebergott, Walter Adams, and others have gone far beyond *The Transportation Revolution.* But Taylor had warned that judgment of whether workers bettered their lot must depend upon matters that reflect the quality of life and not merely wages. Similarly, Taylor echoed, subtly at least, the Beardian tradition that emphasized conflict of labor and capital. But Taylor did so with a difference; he gave careful attention to the complex variety of labor relations in diverse industrial settings, ranging from the early Lowell mills and Philadelphia craftsmen's workshops to iron mines, canal ditches, and road projects. In equally sensitive but less prominent passages, Taylor cut close to the heart of concerns that later would infuse the work of Willard Hurst, John Sawyer, and others, with his contention that when antebellum Americans confronted the problems of industrialization and growth, they did so in "the spirit . . . of a young and

[6] Edward Chase Kirkland, *Industry Comes of Age: Business, Labor, and Public Policy, 1860–1897* (New York, 1961); Herbert Gutman, "Work, Culture, and Society in Industrializing America, 1815–1919," *American Historical Review*, LXXVIII (June, 1973), 531–588.

pioneering people who were trying new things in an undeveloped country."

Taylor built his sectoral analyses of industry and transport upon a solid foundation in the history of technology consistent with the great tradition of Paul Mantoux on the industrial revolution, revitalized recently by David Landes' *Prometheus Unbound.* Despite the passage of the years, and the appearance of pathbreaking interpretive studies such as Nathan Rosenberg's and Paul Strassman's, *The Transportation Revolution* remains a reliable and concise repository of data brought together systematically from a staggering array of contemporary sources.

If the book is "dated," in any significant way, it is by its lack of explicit attention to economic growth in the rigorous sense that informs virtually all the major studies in the discipline over the past fifteen years — especially the scholarship that has been influenced by Douglass North's pathbreaking work, *The Economic Growth of the United States, 1790–1860* (1961) and by the studies of Simon Kuznets, Robert Gallman, and others on commodity output, national product, and other statistical indices of growth. It does not detract from the contributions of North and others to note that on one central point Taylor was right and North clearly wrong: It was Taylor's thesis that government policy and law shaped economic growth, a concept essentially denied or assumed away through the magical invocation of *ceteris paribus* in the early works in the "New Economic History." Indeed, today some of the earliest and best of the "new" historians are dedicating their energies to such themes as property institutions and localistic American "mercantilism" in a vein successfully explored, even if not definitively marked out, in *The Transportation Revolution.* Above all, the same spirit of broad and adventurous inquiry that had led Taylor into the then-nascent field of price history with his 1929 dissertation has impelled him to contribute one of the seminal studies of economic growth on the pre–1840 period.[7]

Taylor's Work Since 1951

Taylor has remained at the center of scholarly dialogue on a number of important interpretive issues. Much of his more recent work has focused on the growth of American cities. When he wrote *The*

[7] Taylor received the doctorate from the University of Chicago in 1929. Among his published studies of price history were: "Prices in the Mississippi Valley Preceding the War of 1812," *Journal of Economic and Business History*, III (1930), 148–163; "Wholesale Commodity Prices at Charleston, S. C.," two parts (covering 1732–1861), *ibid.*, IV (February, August, 1932). The more recent study is "American Economic Growth before 1840: An Exploratory Essay," *Journal of Economic History*, XXIV (December, 1964), 427–444, Professor Taylor's presidential address before the Economic History Association annual meeting.

Transportation Revolution, there was only a slender body of modern scholarship on urban growth. Taylor's contribution to the analysis of urban development appears, in retrospect, all the more impressive when one considers how prominent in the citations to his sections on urban society and urbanization were references to the half-century-old study by Adna Weber. Moreover, Taylor's later work has continued to break new interpretive ground. His Smithsonian articles on intra-urban transport (along with Sam Bass Warner, Jr.'s analysis of Boston) defined a previously unrecognized dimension of urban process and cast new light on the dynamics of "urban spread." And in a contribution to the 1965 Hagley symposium on the Civil War era, Taylor brilliantly illuminated the interactions between urbanization, the development of a regionally specialized national economy, and economic growth. Meanwhile, Taylor had also advanced the study of economic growth as reflected in urban price series; and in testimony to the Joint Economic Committee, he provided what quickly became the standard summary view of the history of American prices.[8]

Transportation and its impact on the development of American economic institutions have remained central to Taylor's research. In 1956 he joined with Irene Neu to publish *The American Railroad Network, 1861–1890,* the definitive study on how the multi-gauged antebellum railway network became a truly integrated transportation system. The maps, alone, in this volume are a unique and important contribution to economic history.

In 1965 Taylor retired from Amherst College, where he had created a pioneer American Studies program that achieved wide national acclaim, and for the next five years was the Senior Resident Scholar at the Eleutherian Mills Historical Library in Greenville, Delaware. This new position gave him an opportunity to continue his research and to teach a series of advanced graduate seminars in economic history at the nearby University of Delaware. In common with most economic historians, Taylor was fascinated by Douglass North's *Economic Growth of the United States 1790–1860.* Despite North's

[8] Taylor, "The Beginnings of Mass Transportation in Urban America, Part I," *The Smithsonian Journal of History,* (Summer, 1966); Part II, *ibid.,* (Autumn, 1966); Taylor, "The National Economy Before and After the Civil War," in David T. Gilchrist and David Lewis, eds., *Economic Change in the Civil War Era* (Greenville, Delaware, 1965); Taylor, Statement (with Ethel Hoover) at *Hearings before the Joint Economic Committee: Employment, Growth and Price Levels,* 86th Cong., 1st Sess., April 9, 1959 (Washington, 1959); Taylor, "American Urban Growth Preceding the Railway Age," *Journal of Economic History,* XXVII (September, 1967). Taylor has also continued to bring the master-journeyman's skills to the workbench in more closely focused monographic work. Thus he contributed in 1960 an authoritative summary of the primary sources for reconstruction of railroad mileage and investment statistics in the nineteenth century: "Railroad Investment before the Civil War: Comment," *Trends in the American Economy in the Nineteenth Century,* National Bureau of Economic Research, Studies in Income and Wealth, Vol. XXIV (Princeton, 1960), 524–544.

impressive use of numbers, however, Taylor felt that historians still lacked sufficient hard data about the antebellum economy.

Taylor particularly thought that North had not proved his thesis that prior to the Civil War the three great American sections, the South, the North, and the West had become specialized economically and interdependent upon one another. Consequently, Taylor sympathized with Albert Fishlow's criticism of North's work.[9] Taylor felt that only through further extensive research could the questions raised by North and Fishlow be answered. Taylor knew that much excellent data lay untapped in widely scattered government records, and in such items as the annual reports of urban boards of trade, canal commissions, and railroad corporations. Under Taylor's direction, the Eleutherian Mills Historical Library set out to collect such data. At the same time, he encouraged his graduate students to gather and use such material. T. Allan Comp's work on the antebellum Virginia grain trade resulted from Taylor's encouragement. Another direct outgrowth of Taylor's influence was Diane Lindstrom's studies. Her "Southern Dependence Upon Interregional Grain Supplies: A Review of Trade Flows, 1840–1860" helped to dispel North's assertion that western food was essential to southern plantations. Taylor also inspired Lindstrom to undertake her prize-winning study of Philadelphia's pre-Civil War commerce. This work, forthcoming from Columbia University Press, further challenges the North thesis on interregional trade.[10] While at the Eleutherian Mills Library, Taylor also published what has become the standard bibliography on American economic history before 1860.[11]

In a spirit that represents the best tradition of scholarly inquiry, Taylor has always welcomed new research that could modify or would challenge conclusions he reached in *The Transportation Revolution*. He has been unstintingly dedicated to the task of pushing back the frontiers of knowledge and to stimulate others to join him in this task. All the while, he has also given his energies and learning to the task of enriching the study of American civilization in the colleges and schools; and for twenty years, he edited the magnificent series, *Problems in American Civilization*, known to

[9] Fishlow, "Ante-bellum Regional Trade Reconsidered," *American Economic Review*, LIV (1964), 352–364.

[10] Lindstrom's article on "Southern Dependence" is in *Agricultural History*, XLIV (January, 1970); Mr. Comp's University of Delaware doctoral dissertation is near completion. Lindstrom's dissertation on "Demand, Markets, and Eastern Economic Development: Philadelphia, 1815–1840" (also University of Delaware) won the Columbia University Prize in Economic History in Honor of Allan Nevins.

[11] Cited in note 3.

every teacher of American history as "the Amherst series," which became a classroom staple throughout the nation.[12]

The formation in 1975 of The Regional Economic History Research Center at the Eleutherian Mills Historical Library realizes a dream that Taylor had when he first came to the Library as Senior Resident Scholar in 1965. The initial efforts of the Center, which has received a substantial grant from the National Endowment for the Humanities, will appropriately focus on the economic history of the mid-Atlantic area from 1750 to 1850.[13] All scholars who work in this field will owe an enormous debt to George Rogers Taylor, who as historian, economist, critic, bibliographer, and teacher has already well earned the respect and gratitude of his colleagues.

[12] Taylor served as series general editor from 1948 to 1968. He also was editor of four individual volumes in the series: *The Turner Thesis* (three editions, New York, 1949, 1956, 1972); *Jackson versus Biddle: The Struggle over the Second Bank of the United States* (two editions, 1949, 1972); *Hamilton and the National Debt* (1950); and *The Great Tariff Debate, 1820–1830* (1953).

[13] See Glenn Porter, ed., *Regional Economic History: The Mid-Atlantic Area Since 1700* (Greenville, Del., 1976).

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NOTE

The Role of Private Banks in the Early Economy of the United States

Students of American banking history have tended to concentrate on chartered banks, not because they fail to recognize the importance of private bankers in the early economic development of the United States, but because of the problems that surround research on this subject. One of the best recent statements of the importance of private bankers is nevertheless far from convincing – judging from comments of others in the field – as a result of the lack of hard evidence on this point. I therefore offer this note to draw attention to possibilities for placing such reviews on more solid ground.[1]

Let us distinguish between two kinds of banking functions; one is essentially of economic character, namely the creation of purchasing power, while the second is primarily of business character and thus only indirectly influences the economy as a whole. To begin with the first, in the late eighteenth and early nineteenth centuries the main instruments for creating purchasing power were bills of exchange and promissory notes, of which the latter came to play a particular role in the early United States. Originally, many of the American colonies and states when coming into existence were reluctant to legalize the promissory note as a business instrument. Only in the second stage of the country's development did the attitude slowly change. But then the issuance of promissory notes was often restricted to chartered banks. They issued promissory notes in the form of banknotes, this being actually the basis of their business. Rather late in the nineteenth century everywhere in this country the issue of promissory notes was legalized and their use

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[1] Richard Scylla, "Forgotten Men of Money: Private Bankers in Early U. S. History," and Discussion by Lance E. Davis. Papers Presented at the Thirty-fifth Annual Meeting of the Economic History Association, published in *The Journal of Economic History*, XXXVI (March, 1976), 173–197.

became common practice in every line of business. For details I refer to my paper, "The Promissory Note as a Financial and Business Instrument in the Anglo-Saxon World; A Historical Sketch" in *Revue Internationale d'Histoire de la Banque*, III (1970). It is obvious that early reluctance of the American legislatures to permit the general use of promissory notes was a severe handicap to businessmen who wanted to do a banking business without taking out a charter.

Students of banking have long been aware, of course, of the fact that purchasing power can also be created in the form of deposits, as is generally done today; but at least in the Anglo-Saxon world this practice demanded the general acceptability of checks. Nothing kept the private bankers from creating purchasing power except the difficulty of introducing the check into the back country. Thus before we can hope to portray their roles, a preparatory step is necessary. We must investigate when and by which method deposits were first created by banks (chartered, "free," and private alike) in the various American states. A number of years ago Professor Fredrick C. Merk found a Massachusetts document describing in all detail the creation of deposits in the Commonwealth. He left the presentation and analysis of the document to the author of this note.[2] To my knowledge, nothing is known about the beginning of the creation of deposits in other American states.

One early step toward the solution of this problem would be the search for similar documents indicating when and how deposits were first created in the various American states and to ascertain if and when private bankers saw their chance thereby to worm their way into a more complete banking business. The search for surviving checks of private banks, as I know from experience, would not be an easy job. There are only very few collections of old checks as such. Most of them are to be found in surviving papers of businessmen and of companies collected by state or local historical societies. The mere quantity of extant samples of checks drawn on private bankers might permit some conclusions. Simultaneously one might also guess the relative importance of private banks as compared with chartered and "free" banks as payees of checks and creators of deposits.

For a long time it has been known that some individual businessmen got around the legal prohibition, usually by stealth, and built up a private banking business on the basis of note issue. But these

[2] See Fritz Redlich, "On the Origin of Created Deposits in the Commonwealth of Massachusetts" in *Business History Review*, XLIII (Summer, 1969), 204–208.

were exceptions, and of the several hundred private bankers accounted for in the 1850's in the *Bankers Almanac*, no more than a very few, if any, issued banknotes illegally. It is well known that some private bankers had their hands in chartered or "free" banks and issued the latter's notes in their (the private bankers') business. Undoubtedly that was an opportunity for increasing their concerns and gaining greater importance for them. Perhaps one should start a special study of that very combination of private and chartered or "free" banking to find proof of the former's importance. Up to now there are no such studies. Of course, a businessman does not *ipso facto* become a private banker when he owns a more or less large share in a legally recognized bank.

There remains one other approach to this subject. One may start from a paper by Erling A. Erickson "Money and Banking in a 'Bankless' State; 1846–1857".[3] It seems to me that the importance of Erickson's work rests on the fact that its author found a particular American type of banker, the real-estate-agency banker, who added to his main business of real estate deals some financial transactions common to banks. This specific type of American private banker is homologous to the merchant banker as we know him as working all over the Western world in commercial centers and ports, a man or firm doing a mercantile business first of all but engrafting financial transactions thereon. Erickson discovered this type of real-estate-agency banker for Iowa, and I suspect one might find this type everywhere in the American back-country. If this hunch is correct and if these typical American businessmen are counted as private bankers, as I think they should be, then the importance of the category becomes significantly greater.

This type of businessman, whom I certainly would classify as a private banker, even though he was not listed in the *Almanac*, would preferably issue bills of exchange. Thereby he would draw capital from the capital-rich areas into the underdeveloped ones to make capital available for both real estate speculations and investments by would-be farmers.

To sum up: if one wants to show that private bankers played a greater role in the U.S. than has been accorded them so far, one could consider several approaches: (1) investigate when and how the creation of deposits became possible and actually took place in the various American states; (2) ascertain when and how the check became a common means of payment in the various American states;

[3] *Business History Review*, XLIII, (Summer, 1969), 171–191.

(3) search for the real-estate-agency bankers in all American states in the Middle West and West; and (4) search for surviving checks issued prior to the Civil War and for surviving bills of exchange drawn in the American interior on financial centers and then analyze the items as to the drawer or issuers, respectively, and their presumable purpose.

THE EDITOR'S CORNER

The Thomas Newcomen Award in Business History, consisting of $1000 and a scroll for the best book in business history during 1974–76, has been awarded to Irvine H. Anderson, Jr., Assistant Professor of History, University of Cincinnati, for his *The Standard-Vacuum Oil Company and United States East Asian Policy, 1933–1941*, published in 1975 by Princeton University Press.

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We are pleased to announce that the *Business History Review* is included among 526 English-language periodicals that have been indexed from their first volumes through 1974 in *Combined Retrospective Index Sets.* For particulars, write Mr. William W. Buchanan, Publisher, Carrollton Press, Inc., 1911 Fort Meyer Drive, Arlington, Virginia 22209.

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The Regional Economic History Research Center of the Eleutherian Mills-Hagley Foundation announces an interdisciplinary research program in the economic history of the Mid-Atlantic states, 1750–1850. The project will focus on the transition from the rural, agrarian, settlement era to the early phase of an industrial, urban society, paying particular attention to the social context and consequences of that transition. The Center invites the participation of economic, social, and intellectual historians, as well as historians of science and technology, agriculture, labor, and others. In addition, the Center seeks interested scholars in other disciplines, such as economics, sociology, anthropology, and geography. Researchers will be in residence at the Eleutherian Mills Historical Library.

Research stipends include Senior Postdoctoral Fellowships (maximum per academic year, $20,000) and Junior Postdoctoral Fellowships ($15,000 maximum). In addition, for both postdoctoral and predoctoral researchers, the Center offers grants for stays of less than one semester, as well as summer stipends. These grants are available from July 1, 1977 through June 30, 1980. The project is supported by a grant from the National Endowment for the Humanities.

Applications may be submitted at any time after January 1, 1977, but those wishing to begin research before October 1977 should complete the application process by April 15, 1977. For additional information about the Center and its program, and for fellowship application forms, write: Glenn Porter, Director, Regional Economic History Research Center, Eleutherian Mills-Hagley Foundation, Greenville, Wilmington, Delaware 19807.

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The Eleutherian Mills-Hagley Foundation, Wilmington, Delaware, has published the proceedings of the conference held in December 1975

to lay plans for the Regional Economic History Research Center. The volume, edited by Glenn Porter, Director of the Center, is entitled *Regional Economic History: The Mid-Atlantic Area Since 1700* and contains papers presented by scholars in economic and social history and the history of technology.

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The 1977 Economic History Association meetings in New Orleans, September 15–17 will include a session devoted to reports on dissertation research by six to eight students who will receive their Ph.D. in economic history by the end of the spring term, 1977. The session will be chaired by Professors Louis P. Cain and Charles K. Harley. Persons who wish to be considered for participation should send two copies of a 2,000 word abstract of their dissertation to Professor Louis P. Cain, Department of Economics, Loyola University of Chicago, 820 North Michigan Avenue, Chicago, Illinois 60611, by June 1, 1977. The names of those selected will be announced by June 30, 1977. Therefore, all abstracts should include an address where the author can be reached in June, 1977.

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The Johns Hopkins University's Department of History will hold a "Summer Seminar on Quantitative Techniques in Historical Research," June 6 through July 29, 1977. The seminar is designed for faculty members and graduate students, but advanced undergraduates can apply for admission. The program will emphasize the acquisition of basic statistical and computer skills and the fundamentals of project design. Total tuition is $500.00 and applications, which must be accompanied by a $25.00 deposit, are due on May 1, 1977. Write to Professor Vernon Lidtke, Chairman, Department of History, The Johns Hopkins University, Baltimore, Maryland 21218 for further information.

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An organization for the advancement of business history was founded in Germany on June 10, 1976, under the title of Gesellschaft für Unternehmensgeschichte. Among the founders were historians and business leaders, including a member of the Siemens family. The organization will seek to investigate the role of businessmen in social life and individual enterprises; to deal with the theory and methodology of the historiography of business enterprise; to promote and suggest scholarly work in these fields; to organize dialogues between business, academia, and the public at large; and to sponsor and advise those who deal with questions relating to the field concerned. The first public meeting of the new association took place in Munich on November 18, 1976, in the offices of the Bavarian Academy of Sciences, where a paper, "The Business Leader in the Historical Past and in Our Own Time," was presented. The address of the organization is Koblenzer Strasse 102, 5000 Koln 51, West Germany.

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The history of the Textile Workers Union of America (TWUA) recounted by the people involved will be recorded by the State Historical Society of Wisconsin in an oral history project funded by a grant from the National Endowment for the Humanities.

The Society will tape interviews with former and present leaders of the union, which was once the third largest in the CIO.

The written records of the TWUA comprise an important collection in the State Historical Society of Wisconsin, one of the country's foremost resources for the study of American labor history.

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On November 1, 1976, the Division of Archives and Manuscripts of the Minnesota Historical Society, formerly located at 690 Cedar Street and 117 University Avenue, St. Paul, will be consolidated at 1500 Mississippi Street, St. Paul, Minnesota 55101, along with reference and technical services and division offices.

The Reading Room at 1500 Mississippi Street will be open to the public as of November 1, 1976, from 8:30 to 5:00, Monday through Friday.

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Charles R. Schultz, Archivist of Texas A. & M. University, College Station, Texas 77843, announces that the University has published another in its series, *Bibliography of Maritime and Naval History*, covering articles published during 1974 and 1975. The Bibliography was compiled by Mr. Schultz and Pamela A. McNulty.

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The United States Department of Commerce, Bureau of the Census, has published a new edition of *Historical Statistics of the United States, Colonial Times to 1970*, 2 vols., available from the Assistant Public Printer (Superintendent of Documents), U. S. Government Printing Office, Washington, D.C. 20402, or any District Office of the Department of Commerce.

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The University of Virginia Press has published for the New-York Historical Society, *The Beekman Mercantile Papers, 1746–1799*, ed. Philip L. White, 3 vols. 1976, $37.50, described as "one of the largest published collections of eighteenth-century American commercial correspondence."

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The International Association of Economic History has published a newsletter giving information on symposia, congresses, and other meetings in this field to be held from October 1, 1976 to September 30, 1977. For further information, write Professor Dr. H. Van Der Wee, Centrum voor Economische Studiën,. Universiteit Leuven, 2b, Van Evenstraat, B-3000 Leuven (Belgium).

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The next annual meeting of the Economic and Business Historical Society will be held April 21–23, 1977, at the Hilton Hotel in Denver, Colo. Anyone interested in attending should write to Professor Charles Kennedy, CBA Building, University of Nebraska-Lincoln, Lincoln, NE 68588.

Professor Philip R. Smith, president-elect and program chairman for the meeting scheduled for April 27–29, 1978, at a site to be announced, is now making arrangements for that program. Anyone interested in participating in 1978 should write to Professor Philip R. Smith, Department of Social Service, Bessey Hall, Michigan State University, East Lansing, MI 48824.

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The Regional Economic History Research Center, Eleutherian Mills-Hagley Foundation will sponsor a conference on May 6, 1977, at 2:00 p. m., on Social Change in Early Industrial Communities, under the chairmanship of Professor Thomas C. Cochran, Department of History, University of Pennsylvania. The speakers will be Andrew Beveridge, Department of Sociology, Columbia University, "The Social Effects of Credit: Cheshire Co., N.H., 1830–1860"; Anthony F. C. Wallace, Department of Anthropology, University of Pennsylvania, "A Cotton Manufacturing Village: Rockdale, Pa., 1825–1865"; and Stefanie Grauman Wolf, Bicentennial College, University of Pennsylvania, "Artisans and the Occupational Structure of an Industrial Town: 18th Century Germantown, Pa." The commentator will be Professor Merritt Roe Smith, Department of History, Ohio State University. Further information can be obtained from Glenn Porter, Director, Regional Economic History Research Center, Eleutherian Mills-Hagley Foundation, Greenville, Wilmington, Delaware 19807.

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The Academy of Accounting Historians announces that the first issue of a new publication, *The Accounting Historians Journal*, will appear early in 1977. Subscriptions ($22.50 for three years and $7.50 for one year, for non-members of the Academy; $12.50 and $5, respectively, for members) should be addressed to Gary J. Previts, Co-editor, P. O. Box HJ, University, Alabama 35486, checks payable to *The Accounting Historians Journal*.

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The Editor regretfully reports, with apologies to the author, that the person who undertook to review Mary O. Furner, *Advocacy and Objectivity: A Crisis in the Professionalization of American Social Science 1865–1905*, published in 1974 by the University Press of Kentucky, has abandoned his commitment and has not responded to our letters. Readers who especially wish to see this book reviewed, for the record, should communicate with the Editor.

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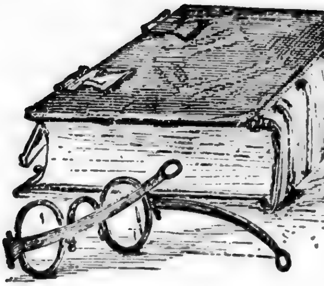

BOOK REVIEWS

THE CANAL BOATMEN, 1760-1914. ***By Harry Hanson. Totowa, N.J., Rowman and Littlefield, 1976. Pp. xii + 244. $24.50.***

Reviewed by Ralph D. Gray
Professor of History
Indiana-Purdue University, Indianapolis

The canal age in Great Britian has been studied intensively, but too little attention has been devoted to the people who worked, and in time lived almost exclusively, upon the waterways. That these people made up a distinctive sub-culture in British society and that the details of their origins, numbers, economic contributions, and life-styles have been grossly misunderstood are the twin theses of Mr. Hanson's valuable study. It goes a long way toward bridging the gap in our knowledge about the boatmen and their families. Although the author has limited his subject to those who navigated the narrow boats (under seven feet in width) on the canals and waterways of the English midlands prior to 1914, it deals with a significant number of watermen during their most prominent period of labor. The result is an important contribution to the literature of the field.

The book is based upon an impressive amount of research among scattered primary sources, including census returns, local government board reports and other public documents, various canal company papers, and an assortment of contemporary writings. It is exceedingly well written. Hanson has amassed much information on the origins, economic activities, morality, living conditions, educational standards, and even the speech patterns of the narrow boat inhabitants. These people, as Hanson carefully demonstrates, have been the object of much baseless speculation and prejudicial reporting from the early nineteenth century on, and modern interpreters have usually passed on the subjective analyses without pause. These include the charges of gross immorality, vice, and violence, all to the tune of streams of profanity and counterpointed by casual cruelty to both children and animals.

As might be expected, some of Hanson's most vivid prose (and the book is rich in quotable lines and illustrations) describe some of the canalers' "fiddles" or tricks designed to increase surreptitiously either their diet or their purses, various types of dishonesty and immorality, ranging from stealing turnips from gardens along the "cut" to maintain-

ing fierce "poaching" dogs, and other examples of the boisterous life of the rootless boatmen who were free from many of society's normal restraints. The author does not mince words or avoid the most damning charges against the boating population, but he does take "a balanced view" and discounts the unrelieved hostility of the image painted by the social critics and reformers of the nineteenth century, particularly a George Smith. Hanson suggests that the "boatmen had no monopoly of sin," and concludes that "even accepting the very real blemishes in their character . . . the canal-boat population was neither 'worse' nor 'better' than the working class population at large, but different" (75, 80). All of this is told against the economic backdrop, carefully sketched in but never emphasized, of England's developing canal system, the coming of the railroad and its gradual replacement of the waterways, and the slow but increasingly effective growth of governmental regulations of life on the canals, especially the Education Act of 1870 and the Canal Boats Acts of 1877 and 1881.

The book starts slowly, belaboring the point that the theory of gypsy origins of the wandering boating class is unwarranted, but it rapidly gets into full stride as Hanson discusses the dual impact of the fast-moving, long-distance "fly boats" and then the railroad, concluding that the former, rather than the railroad as commonly believed, was responsible for the development of the family boats, which in turn resulted in growing criticism of those who lived permanently upon the waterways. The range of research, the importance of the findings, the sophistication of the writing make it difficult to accept the fact that *The Canal Boatmen* began as a master's essay.

The most interesting chapters of the book detail the conditions of life aboard the canal boats, the morality of the boating class (contrasting the popular image against the reality), and the changes, usually for the better, that came in the late nineteenth and early twentieth century. Hanson also discusses the limited size of the group of "Number Ones," those who both owned and operated their boats, again challenging the popular view; and the growth of railroad competition but the continued vitality of water transport throughout the period. He also provides many fascinating details about the operations of the boats. He is so thoroughly familiar with boat life that it seems his own experiences must include such work, which would also explain the slightly defensive tone of the book. But even if he learned of it at a distance, the author's intimate knowledge and understanding of such operational procedures as "legging" the boats through seemingly endless tunnels, "jamming" the locks when races for priority ended in a tie, and recklessly using the flow of the water through the locks to help close the heavy, unwieldy gates (this risky maneuver aroused the displeasure of the canal proprietors, who were concerned about such waste of water and the possible damage wrought by the bone-jarring crash when the gates slammed together), add much to the story. Equally impressive is the care with which Hanson handles statistics, always going behind the raw numbers to determine their bias and reliability.

Frankly a revisionist work, if a pioneering study can be revisionist, *The Canal Boatmen* is a welcome addition to the growing bookshelf of modern

canal histories. Although partly sociological, in the best sense of the word, and containing much persuasive new evidence about a little-known but often-maligned group of workers, it also adds to our knowledge about the business of canal companies, shippers, and independent water carriers.

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INVESTMENT IN RAILWAYS IN BRITAIN 1820–1844: A STUDY IN THE DEVELOPMENT OF THE CAPITAL MARKET. ***By M. C. Reed. New York, Oxford University Press, 1975. Pp. xiv + 315. $20.75.***

Reviewed by Stephen Salsbury
Professor of History
University of Delaware

Students of American railroad development will find this superb study of the financing of British railroads during their first quarter-century useful and fascinating. One of the most striking things about British railway-building was its rapidity. Although M. C. Reed rightly traces public railways back to the pioneer Stockton and Darlington, which began in 1820, British railway building only came of age in 1829 with the completion of the Liverpool & Manchester on which George Stephenson demonstrated the superiority of steam locomotion. In the next fifteen years, the English railway network expanded so that by 1844 it was possible to travel by train from London to Exeter via Bristol, or up to Liverpool via Birmingham, or from London to York and Newcastle. All of this accomplishment is even more remarkable in view of the very exacting and complex (by American standards) legislative requirements that English railroad companies had to meet, and because of the very substantial manner (as compared to American practice) in which the English built their lines.

British railways required enormous amounts of capital. By 1844, seventy railway companies had absorbed in excess of £57,400,000 sterling as compared to only £35,000,000 in the important cotton textile industry, and £46,400,000 in banks, and but £17,800,000 in canals. Thus, in the fifteen years following the completion of the Liverpool & Manchester, "railways represented the largest single group of joint-stock companies quoted [on the stock exchange] in London."

After carefully setting the stage, Reed asks the following questions: How much exactly was invested in British railways? How much of it represented equity? How much in loans? Where did it come from? What kind of people or institutions supplied it? Did the sources and nature of capital change over time? What was the institutional framework chanelling funds into railways?

Reed's study is heavily statistical, as it must be. He makes use of the computer to tabulate and analyze. But unlike so many current American economic historians, Reed does not employ any counterfactual models or fancy mathematics. Reed achieves his results by painstaking and thorough research in such primary sources as subscription contracts, share registers, and corporation stock transfer books. It is clear that Reed has used the bulk of the existing records, and the gaps in his study are

caused by lack of data, not an unwillingness to spend vast amounts of time to piece together early British railway financial history. The result is a definitive study of permanent value.

The picture that emerges revises some long-held views about early British railway finance. Reed sees projects during the first quarter-century developing with a momentum of their own, not springing from speculative manias or booms associated with trade cycles. As expected, British lines had a high proportion of equity finance as compared to most American systems. Stock subscriptions were responsible for about two-thirds of British railway capital. Nevertheless, Reed demonstrates that loans were crucial to the rapid growth of the English system, and in some years provided nearly half of the money raised. Except in Ireland, government loans were not important, however, supplying less than one per cent of lent funds for the English lines.

The bulk of Reed's study is a detailed analysis of the source and nature of the capital provided by the shareholders. He argues convincingly that non-local funds, especially those from London and more importantly Lancashire, were essential for railway projects from the very first. This revises the oft-stated view that local interests dominated early railway financing. Reed also points out how railways tapped new sources of capital that traditionally had not been mobilized by the London market, which had concentrated on government securities. Railway finance caused the establishment of provincial stock exchanges in cities such as Liverpool, Manchester, and Glasgow.

For the American reader, one of the most valuable aspects of Reed's book is his detailed description of the mechanics of organizing British railways. He clearly describes the parliamentary laws governing the chartering of railway systems, and the very complex financial arrangements that had to precede any parliamentary charter. Much of Reed's study tells how English promoters evaded parliamentary law. British regulations were far stricter than those of the most stringent of American states such as Massachusetts and Pennsylvania. It is clear that although British railways provided America with many precedents, our experience was far different, giving individual promoters much more latitude. Anyone writing on early American railway history will find it worthwhile to consult Reed's excellent study.

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BRITISH WORKING-CLASS MOVEMENTS AND EUROPE, 1815–1848. ***By Henry Weisser. Manchester, Manchester University Press, 1975. Pp. viii + 226. $17.50.***

Reviewed by Peter N. Stearns
Heinz Profesor of History
Carnegie-Mellon University

This book, relying on largely familiar sources ranging from the "ultra-radical" press of the post-Napoleonic era (Cobbett, Carlyle, and the like) to the pamphlets of the Chartists, focuses exclusively on the outlook expressed toward developments abroad, with a few comments on attitudes toward British foreign policy and, at the end, radical exiles in

Britain. The author acknowledges some previous work on the subject, particularly on Chartists' sporadic attempts to take courage from foreign developments. He also tries to make something of the enthusiastic reaction to the French revolution of 1830, quarreling with those who hold that it had little role in working-class agitation before the Reform Bill, though it is hard to see that he goes much beyond G. D. H. Cole in this analysis. The book is carefully researched, within the confines of its source material. Unfortunately, as the author almost admits, its contents represent little more than milking that last udder of a tired cow.

For the fact was that British radical publications were not much interested in what went on abroad. (They differed here considerably from the French, and the author might have profited by a bit of comparison. British enthusiasm for the Poles, for example, noted as due to the latters' "exoticism," could not compare to France's enthusiasm, where a major riot was staged in 1848 ostensibly on the Poles' behalf.) The author, again meticulous, notes how little space was devoted to foreign developments. His chapters focus mainly on events that had to stir some comment: the Spanish revolution of 1820, the rising of 1830 (with Belgium, however, largely ignored). Only with the combination of mature Chartism plus the arrival of numerous exiles was there much albeit sporadic, interaction. But this topic, for the later 1840s, has been fairly well covered, and the author plods through it in essentially the same descriptive style he uses for other sections. There is nothing wrong with all this, but nothing particularly exciting either.

From the standpoint of cultural and British history, Professor Weisser does point up an interesting *yin-yang* syndrome. Radical spokesmen might seek inspiration from, or verbal solidarity with, foreign movements, but they also sometimes in the same person (e.g. Cobbett), could be extremely xenophobic, urging Britons to shun all that was not appropriately insular. Again in contrast to the French, few — mainly some of the Chartists — had any notion that British agitation might prove a stimulus to upheaval elsewhere. Interesting, and perhaps prophetic for the future labor movement; but something of a footnote for this period, since there was little interest in either philia or phobia.

And, of course, to milk the poor cow in a slightly different pail, there is the perennial problem of the British working class. The author notes, early on, how difficult it is to know who read what. He goes on to cite candle-light readings in coffee houses and on work sites(the latter a bit difficult to reconcile with the supposed harshness of working conditions in the period, but let that pass).

But after this caution, it is "the workers" who are speaking, and Professor Weissman clearly wants them to be class-conscious, with internationalism expressing this class consciouness. But even aside from the honest admission that many spokesmen were not consistent internationalists, we simply do not know who the workers are. The author notes demonstrations, early in the 1830s, in favor of French revolutionaries, but oddly has not consulted Home Office or other police records for any evidence on crowd size or composition. So we are back to a rather small number of writers, and reading by candlelight. And that

the result had any significant impact on British labor at the time or later, or on developments elsewhere (even on the outlook of famous exiles) is left unattended.

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THE AGE OF CAPITAL, 1848–1875. ***By E. J. Hobsbawm. New York, Charles Scribner's Sons, 1975. Pp. xv + 354. $17.50.***

Reviewed by Lawrence L. Murray
Assistant Professor of History
St. John's University, Jamaica, N.Y.

Comparative studies of a topical nature were heralded as one of the new directions of the historical community in the 1960s. Prompted by C. Vann Woodward and others, a concerted attack was leveled against the myopia of national history in the shriveled world of the space age. The concept of comparative history was greeted enthusiastically, but the methodological and intellectual problems proved so demanding that only the most courageous accepted the challenge. Of those who did, a few such as David Brion Davis succeeded admirably, but most found their efforts criticized by specialists for being superficial.

Undaunted by the failure of others, E. J. Hobsbawm has entered the fray with his study of world civilization from the failure of the revolutions of 1848, "the springtime of peoples," to the great depression of the 1870s. A sequel to *The Age of Revolution, Europe 1789–1848, The Age of Capital* (capitalism might be a more appropriate word) revolves about the central theme of the "global triumph of capitalism" in the decades after 1848. Consequently, Hobsbawm concludes that "history from now on became world history" (47) and that it was no longer possible to write "purely" European history.

While persuasively asserting his argument of the unifying nature of mid-nineteenth-century, western-European capitalism in the creation of a worldwide economy, his ability to sustain and demonstrate it is uneven. Even a cursory glance at the index reveals that most of his effort focused on Europe, becoming thinner as he expands to the far reaches of civilization. Further, while exhibiting a superb command of the secondary literature of his native region, he succumbs to the methodological dilemma of adequately versing himself in all areas. The result is a series of significant errors. For example, he dates the establishment of the Federal Reserve System at least a half-century early and then proceeds to discuss its impact on a new Japanese banking system (151). Such an error, combined with lapses into stereotyping and some minor mistakes, compromise the entire coverage of the American and Japanese experiences. Perhaps his description of the bibliography of American history as "limitless" and then his cavalier reference to a text book and an encyclopedia are indicative of the importance he places on the United States in the triumphant march of capitalism.

Errors that distress the specialist — the bane of comparative history — might partially be forgiven for Hobsbawm asserts that his survey is "deliberately addressed to the non-expert reader" who possesses "an adequate general education" (xiii). The average reader, at least one who is

capable of wading through some rather convoluted prose, will be stimulated by a provocative approach and wealth of information, especially the discussion of middle-class sexual mores and family structure. Hobsbawm's coverage is current in that it reflects the trends in historical scholarship in the last decade, and his ability to handle some of the new social history is at times brilliant. Even the nervous specialist will find much that is illuminating, and those who have disdained Marxist history as narrowly "economic determinist" will be acquainted with the wider possibilities of an unorthodox approach.

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THE GENERAL STRIKE. ***By G. A. Phillips. London, Weidenfeld and Nicolson, 1976. Pp. xi + 388. £7.95.***

Reviewed by Standish Meacham
Professor of History
The University of Texas at Austin

G. A. Phillips apologizes at the outset of his authoritative study of the 1926 British General Strike that the work "may not prove easily digestible." He is correct. The fare is both heavy with facts and rich in analysis. The general reader might well be happier with Patrick Renshaw's recent and less demanding account, published in England as *The General Strike* and in this country as *Nine Days that Shook Britain*. But those with more than a passing interest, not only in the events that Phillips describes but in their relationship to wider questions of labor history, will find this book well worth their while.

Using papers hitherto either unavailable or unexamined — most notably cabinet papers and the records of the Trades Union Congress — Phillips has produced as thorough an account of the events of the "nine days," and of those that immediately preceded and followed, as we shall probably ever get. His attention to foreground detail does not prevent him, however, from casting the activities and attitudes he recounts against a contemporary background of murky and ill-perceived notions about the nature and implications of a general strike.

Labor leaders had begun to recognize its potential as a weapon of industrial warfare before World War I, when, as Phillips points out, capitalism had ceased to respect industrial boundaries, and trade unionists saw no reason why they should any longer continue to do so. Events in the summer of 1920, however, led the country to understand that a general strike might be defined as something more than an industrial dispute raised to a higher power. Both the Trades Union Congress and the Labour Party united in a Council of Action to threaten a national shutdown should the Government persist in its intention to intervene in the war between Russia and Poland: the general strike as political action. The Government backed away from that confrontation. In so doing, as Phillips states, it fostered within the labor movement "a false sense of immunity to any indictment for unconstitutional behaviour" (9), a sense that was seriously to mislead labor leaders when they attempted to employ the same weapon, though for different ends, six years later.

Determination to press ahead with strike actions during the early

1920s led the TUC to countenance a radical rhetoric that raised both expectations and fears. The trade union leadership failed to recognize that what they understood as rhetoric, others — a Conservative Government, for example — might rebroadcast to the nation as constitutional threat. In the end, the TUC's General Council might have perceived the situation more clearly had it acknowledged that the general strike of 1926 *was* political, as Phillips points out, a protest against "the inequity and irrationality of specific Conservative policies" (130), among them the Government's refusal to grant a further wage subsidy to the miners. The General Council's unwillingness to come to grips with this central issue led it to proceed without any clear understanding of the nature and meaning of its actions. Handicapped by this uncertainty, the labor leadership was no match for a Government that understood the strike as political and unconstitutional, and did not hesitate to respond to it as such.

By means of full and intelligently selected documentation, Phillips carries his readers with him into the two camps during the period of the strike itself. Labor's uncertainty was reflected in its inability to determine the extent to which the strike was to be a general one. Essential services were to be maintained. Yet how were they to be defined, and who was to define them? Throughout the period of the strike, the Council never resolved its own attitude toward the Government. Was it an interested party? an opponent? or a neutral ringmaster in the fight between the mineowners and the miners? Nor was the relationship between the TUC and the Miners' Federation ever satisfactorily defined. Were they brothers together in an outright war against capital? Or were the miners clients of the Council and bound, as such, to take the best settlement their agent could procure them? The miners never accepted that latter argument; the Council, as the strike proceeded, acted increasingly on the unwarranted assumption that they had.

If tactics were more clearly perceived within the Government's camp, strategy was equally confused. Baldwin and his fellow-"officers" commandeered and commanded as if the country were under seige. That the strike lasted no longer than it did was attributable in large measure to the Government's effective deployment of men and services. Yet Baldwin was little clearer than the General Council as to the Government's proper role. His indecision allowed events to slip beyond his control. Sympathetic to the mineowners, he failed to use that obvious sympathy to extract a bargain from them that might have been acceptable to the strike leaders, if not to the miners. Phillips rightly credits Baldwin's indecisiveness on the one hand to his recognition of the need for widespread change and rationalization in the mining industry and, on the other, to his conservative mistrust of government intervention to effect the necessary reforms. As Phillips points out, succeeding Governments and the Mining Association together instituted most of the required changes in the years after 1926. Yet the fact that those changes were the product of "piecemeal and unplanned adjustments of policy" (263) resulted in their failure to achieve their desired ends.

By concentrating his attention on the General Council and the Cabinet, Phillips provides us with less than we need to know about the central and

far more bitter protagonists in the struggle: the mine owners and the miners. We are told almost nothing of the former group or of the nature and strength of its Association. Of the miners — or, at any rate, their leaders — we do learn something. Yet Phillips fails to address what is perhaps the central question within the complex of actions and motivations he has so intelligently attempted to unravel. Why were the rank and file, alone among all the workers in Britain, prepared to risk all, as they so clearly did, in their prolonged and eventually futile struggle? Had they, indeed, been "proletarianized" to the point where they believed, unlike any other of their fellow-workers, that they had nothing to lose but their chains? The answer lies in a full exploration of the miners' collective consciousness and of the world economic factors that had brought them, by the mid-1920s, to their sorry state. It is an exploration that Phillips does not choose to tackle.

His unwillingness to undertake this admittedly elusive sort of historical probing may have led him to a conclusion that is partially incomplete. He maintains that the strike merits study "less for what it changed in the labour movement, than for what it revealed of the unchanging" (294). On one level, this is correct. In terms of strategy it is true, as Phillips argues, that the pattern of post-1926 industrial strife continued to be traced within long-established boundaries: "the belief in constitutional modes of government, in the virtues of legality, in a pragmatic and conciliatory approach to potentially disruptive social issues (294–295). Yet the strike must be understood not only in terms of the patterns of strategy but also as part of the stuff of mythology. In that sense, it served to divide further the working class and the middle class, and to make Britain a country of two nations. If the programs of the 1945 Labour Government were conceived as a response to what had happened and not in anticipation of what could be made to happen, the mythology of the General Strike, as much as anything, shaped the nature of that response.

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PREZZI E MERCEDI A MILANO DAL 1701 AL 1860. ***By Aldo De Maddalena. Milano, Banca Commerciale Italiana, 1974. Pp. 455 + supplementary graphs (99). 16,000 Lire.***

Reviewed by Frank M. Murtaugh, Jr.
Instructor of Economics
The University of the South

Aldo De Maddalena's book does not belie its title. It is essentially a Milanese price history published as an addition to the series: Studi e Ricerche di Storia Economica Italiana nell'Età del Risorgimento. It is, however, more akin to earlier works in the series, such as R. Romano's *Prezzi, salari e servizi a Napoli nel secolo XVIII (1734–1806)* and G. Felloni's *Il mercato monetario in Piemonte nel secolo XVIII*, than to some of the more general works such as G. Luzzatto's *L'economia italiana dal 1861 al 1914, I: 1861–1894*, or V. Castronovo's *Economia e società in Piemonte dall'Unità al 1914*. In short, it is a book that will be of primary interest to but two groups of scholars: those concerned with the economic

history of modern Lombardy, and those with an interest in comparative economic history among the modern Italian states. For such scholars, the book has much to recommend it, even if one is not primarily interested in price history. The book will not be of great interest to econometricians, as Maddalena makes use of none of the tools that are now commonplace in econometrics.

But this is not to say that Maddalena's contribution is undeserving of acclaim. He has developed a broad series of price statistics for the entire eighteenth century and the first six decades of the nineteenth. That in itself is no mean achievement when one recognizes the fragmentary nature of price data during this period. The price series were assembled from data found by Maddalena primarily in Milan (although some of the archival material was drawn from Vienna). The most notable of these archival sources were the Archivio dell'Ospediale Maggiore, the Archivio della Veneranda Fabbrica del Duomo, and the Archivio del Pio Albergo Trivulzio. The commodity series developed ranges from *frumento* to *carbone*, with breadth sufficient to ensure that the book contains one or more series that touch upon every major sector of the economy. In addition to the forty eight commodity series, Maddalena developed data on the relative value of coin and currency throughout the period. Finally, there is a wage series, using the wage rate for *muratore* (stone masons) and *garzone muratore* (stone masons' apprentices), which can be used, with caution, in analyzing real wage changes from 1701 to 1860.

The book is well organized. Part I contains two chapters, the first of which elaborates upon the nature of the sources and the problems encountered in the development of the statistical series. The second chapter is a more than adequate explanation of the methodology employed in constructing the several series and the choice of parameters used in presenting the refined data. Part II divides the years 1701–1860 into four historically convenient periods: 1701–1750, 1751–1790, 1791–1815, 1815–1860. Each of four chapters deals first with the political and economic machinations that were responsible for the alterations that were taking place in the Lombardian economy. These sections are followed by what amounts to an exposition on the statistical series that parallels the period. One could benefit from reading the descriptive sections in each of the chapters without the *analisi delle curve dei prezzi*. The reverse, however, would be much less rewarding.

While Maddalena's discussion of the events and institutions that were at the center of Lombardian economic development does not introduce much that has not previously been available in other sources, the statistical series would be of little value without his explanatory sections. Moreover, he writes economic history with facility and, for all but those thoroughly familiar with the economic history of the period, the narrative should be informative. To Maddalena's credit, I must add that he has so organized his book that he gives up little or nothing in satisfying those interested in the details of his statistical constructions by this intra-chapter division, while he adds significantly to his book's readability for those less concerned with his statistical rigor.

In addition to the price series presented in tabular form in two appen-

dices, the volume is accompanied by a boxed set of ninety-nine graphs depicting most of the data presented in tabular form in the text, plus a number of graphs illustrating relative price changes among commodities. These graphs are reproduced on a semi-transparent surface and have uniform scales; this allows for any number of interesting trend comparisons simply by superimposing one series upon another. The first forty-four graphs represent (on semi-logarithmic scale) an average annual price for each year in which price data are extant. These graphs also include the same data converted to a moving average. The thirty-five holographs depicting the data for most of the price series in terms of index numbers based on five-year average prices (1701–1705 = 100) seemed to me to offer little that could not be deduced by the trained eye from the preceding series. The remaining graphs depict holographically one or more of the price series against a related series (for the most part, substitutes). Suffice it to say that, if the reader is interested in some form of graphical presentation of this data, the several presentations will no doubt provide, in one perspective or another, the desired depiction.

While I cannot recommend *Prezzi e Mercedi a Milano dal 1701 al 1860* to those less than seriously interested in the economic history of Lombardy, I would be remiss in not insisting that it is a noteworthy contribution to that history and one that should not be ignored. As for those scholars, like myself, whose interest is in the broader Italian economic experience, this has to be regarded as another piece to be fitted into what will eventually be a more complete mosaic of the modern Italian experience.

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INDUSTRIAL IMPERIALISM IN ITALY, 1908-1915. ***By Richard A. Webster. Berkeley, University of California Press, 1975. Pp. vii + 392. $22.75.***

Reviewed by Judith C. Brown
Visiting Instructor in History
University of Maryland

Historians concerned with the rise of fascism in Germany, Italy, and Japan have generalily focused on the years following World War I. In this book, Richard Webster proposes the theory that for Italy the turning point on the road to fascism occurred in the years 1911–1915, when the logic of protectionist policies of industrial development led to repressive politics at home and imperialist policies abroad.

In the first part of the book, the author traces the pattern of Italian industrialization, which he sees as the basis of the politics of imperialism discussed in the second part. He argues that from 1876 to the eve of World War I, concerns with Italian military power and big-power politics determined the rate and direction of industrial growth. Motivated by these nationalistic concerns, successive Italian governments pursued protectionist policies that led to the creation of inefficient industries. As a result, by the early twentieth century, Italy had developed an industrial capacity considerably in excess of domestic demand. Furthermore, this gap between the supply capabilities of industry and domestic demand was exacerbated by regressive tax policies that reduced mass consumption and thus the

demand for industrial products. It is at this point that Italy became interested in exporting its excess supply of skilled labor and industrial products by developing markets in less developed areas. This interest resulted in what the author calls "infrastructure imperialism."

The politics of "infrastructure imperialism" are dealt with in the second half of the book. The Italian government believed that markets for its skilled labor and protected industries could be found in the Balkans and the Ottoman Empire, hence the shift in interest from Mediterranean Africa to the Balkans between 1904 and 1915. In so doing, however, Italy ran head-on into the competing political and economic interests of Germany and Austria. The labyrinthine politics of the area and their relation to business interests are skillfully analyzed in the author's detailed discussion of Italy's involvement in the trans-Balkan railway project and its interest in the development of the sea coast area around Adalia. Using the correspondence of leading Italian financiers and industrialists, Webster argues that their interests coincided with those of the government's foreign policy. The author avoids a simplistic conspiracy theory of economic imperialism and suggests instead that the government's policies were not imposed by big business but were consistent with traditional great-power policies. Especially after 1908, the politics of expansionism appealed to wide segments of Italian society. Imperialism transcended narrow class interests.

The author's analysis of the predicament of Italian industry, based in large measure on Gino Luzzatto's *L'economia italiana dal 1861 al 1914* (Milan, 1963), and Riccardo Bachi's *L'Italia economica 1913* (Città di Castello, 1914), is rich in detail but will likely generate much discussion among economic historians of Italy. Webster's main concern, however, is not with the economy *per se*, but with the problem of fascism, which he believes resulted from the political difficulties that arose during the process of industrial development. Consequently, *Industrial Imperialism in Italy* reflects the concerns of a political historian rather than those of an economist. This may account for the fact that the analysis is not framed in the context of writings by economists such as Alexander Gerschenkron, Jon Cohen, or Stefano Fenoaltea. Readers with more traditional economic interests will undoubtedly want to make this connection. Webster's account of the political and economic networks that operated in early twentieth-century Italy will acquire greater depth in the process.

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STUDIES IN ROMAN PROPERTY. ***By the Cambridge University Research Seminar in Ancient History. Edited by M. I. Finley. New York, Cambridge University Press, 1976. Pp. vi + 212. $9.95.***

Reviewed by K. F. Drew
Professor of History
Rice University

This volume contains a number of studies by members of a research seminar in ancient history at Cambridge University, studies that have been collected and edited by M. I. Finley, Professor of Ancient History at Cambridge. The topic of the seminar was the actual practice of the Romans

with regard to property and investment, and the resulting papers must be viewed from the standpoint of the limitation imposed by the nature of the subject. In general, the problem tackled by the seminar was one that asked for specific answers based on sufficient and reliable data, but the data available to the authors was in almost no case either sufficient or reliable, and, as a result, the answers proposed are rarely more than working hypotheses.

Nonetheless, the kind of work possible on the basis of existing records (literary, documentary, epigraphic, and archeological) is interesting, although the results would hardly have merited conventional publication, given current publishing costs. The method of publication has utilized modern processes whereby formal typesetting costs are eliminated. The resulting utilitarian product is not beautiful but it is certainly perfectly legible, the graphs and tables are quite clear; the binding is very good.

The more technical papers, such as, "Some Configurations of Landholding in the Roman Empire" by R. P. Duncan-Jones and "Classical Roman Law and the Sale of Land" by John Crook have had to use such scattered or incomplete data as to offer little more than a description of the surviving material.

The papers based on literary survivals are more interesting to read, although not necessarily more important contributions. "The Ciceronian Aristocracy and its Properties" by Elizabeth Rawson and "Urban Property Investment" by Peter Garnsey give us another view of the Roman upper classes than we have had before, although employing materials that have been available for a long time (the letters of Cicero and his circle, in the first instance, and literary materials plus an archeological glance at such remains as those at Pompeii, in the second). The latter article, especially, suggests that a further study of investment in urban and rural property is in order.

In "Private Farm Tenancy in Italy before Diocletian," M. I. Finley concludes that there is little evidence to indicate that private estates tended to prefer either slave or tenant managers for reasons of greater profitability; instead the use of slaves or tenants depended upon some nonprofit reason such as the greater availability of one kind of worker or the other, or family custom .

"Agri Deserti" by C. R. Whittaker surveys the evidence for decline of agricultural production in the Late Empire as evidenced by the spread of *agri deserti* and concludes that the evidence is not at all clear that such a decline occurred. The sources that refer to *agri deserti* can usually be interpreted as referring to either a restricted area or a restricted period of time: they do not necessarily prove a generalized contraction of cultivated fields. Whittaker, like most of the other contributors to this volume, concludes that the evidence justifies further study that might modify currently held interpretations.

This is an interesting volume, but its use would seem to be limited to those students interested in research in ancient history.

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FRANCOIS-ETIENNE CUGNET, 1719-1751: ENTREPRENEUR ET ENTREPRISES EN NOUVELLE-FRANCE. ***By Cameron Nish. Montreal, Fides, 1975. Pp. xiv + 185. $10.00 Canadian.***

Reviewed by André E. LeBlanc
Campus Coordinator
Champlain Regional College, Quebec

In his *Les Bourgeois-Gentilhommes De La Nouvelle-France, 1729-1748* (1968) Cameron Nish stoked the fires of the long-simmering controversy over the nature of France's eighteenth-century North American colony. This provocative study argued in favor of a dynamic society in New France dominated by a bourgeoisie elite that closely compared to the prevailing elites of the British colonies to the south. With this new publication Nish launches himself into the fray once again with a detailed examination of one of his so-called *bourgeois-gentilhommes*, François-Etienne Cugnet. The result is another significant addition to the small but growing library of studies that explore the economic and social configuration of the French Régime.

Professor Nish, after briefly surveying the background of François-Etienne Cugnet, examines in detail his career starting with his arrival in the colony in 1719 as director of the *Domaine d'Occident*, the tax farming agency that served as one of the main pillars of the colony's economic superstructure. From this position, and due to the close relationship that he developed with Gilles Hocquart, one of the colony's more perspicacious intendants, Cugnet branched out into a series of administrative and commercial endeavors that characterize membership in an emerging entrepreneurial class. By 1730, he was a member of New France's Sovereign Council, and shortly thereafter became its first counselor. During this period, he was one of the driving forces in the setting up of the capital-plagued Saint-Maurice Foundries, the colony's first heavy industry. The failure of this undertaking and its eventual coming under crown trusteeship spelled financial difficulties for Cugnet but it did not bring to an end his prolific activities. Like other entrepreneurs of the period, he was also engaged in the fur trade, and for several years held a state monopoly on the Tadoussac trade. Cugnet was also involved in a variety of lesser commercial ventures that also receive attention in order to highlight the many facets of his existence.

Together with an attempt to recreate an image of Cugnet's private world, this brings to an end a finely-crafted study that tries to infuse life into a potentially dry litany of related data. Through the use of clear, concise language, by a masterful presentation of relevant tables and photographs, and through a successful attempt to situate the reader in the intricacies of the period, Professor Nish goes a long way towards achieving his end. Nevertheless, I am left with a sense of imbalance. Professor Nish had to mine deeply for his materials and in veins of marginal quality, as he readily admits. As a result of this, over half of the study is devoted to the development and tribulations of the Saint-Maurice Foundries, a fact that could have been profitably noted in the title. A related problem is that the main character of the study is not personalized

despite a valiant effort to do so; Cugnet, the *Ecce homo* of the author's introduction (6) does not quite emerge.

The fact remains, however, that Nish has given us a fascinating, albeit circumscribed, glimpse of the colony's economic life in the closing decades of New France. He has also raised a series of crucial questions, the most important to me being: just how serious was the French government when it came to developing its North American possession? Cugnet despite his acknowledged diversion of *Domaine* funds and his involvement in the understandable but highly questionable collapse of the Saint-Maurice Foundries enterprise retained his place of influence in the colony. Professor Nish suggests that this was as a result of Cugnet's superior talents. One cannot help feeling, however, that this was a tacit acknowledgment by the metropolitain power of the fragility of its colonial undertaking; the French crown may have been willing to give only its third best, and hence could not expect much more from its colonial agents.

This and other questions will obtain a firmer perspective with time. Studies on other colonial entrepreneurs — La Chesnaye, de Francheville, Hazeur, Le Ber, to name a few — are required before a clearer picture emerges. Professor Nish has opened the way. It is hoped that he and others will push along with the same high standards.

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RESEARCH IN ECONOMIC HISTORY: AN ANNUAL COMPILATION OF RESEARCH, VOLUME I, 1976. ***Edited by Paul Uselding. Greenwich, Conn., JAI Press, 1976. Pp. ix + 371. \$22.50, institutions; \$17.50, individuals.***

Reviewed by Lance E. Davis
Professor of Economics
California Institute of Technology

Several years ago Herman Krooss decided that no satisfactory outlet existed for works in economic history that were longer than a journal article but too short for a monograph. Professor Krooss has died, but his idea has not. Under the editorship of Paul Uselding the JAI Press has published the first of an annual compilation of research results that would otherwise appear only in emasculated or overblown form. Moreover, Professor Uselding displays as broad a set of interests as Krooss, and Volume I includes work not only in economic history but in institutional and modern social history as well. It is clear that this series could provide a valuable pulpit for the dissemination of historical research.

At its best Volume I is very good. The new economic history uses quantification and theory both to economize on data requirements and to refocus the questions asked. Volume I contains an excellent example of each methodology. In the lead article Fred Bateman and Thomas Weiss bring their manuscript census sample to bear on the question of southern manufacturing in the antebellum period. They find that rates of return were high in comparison to southern alternatives and compared favorably with returns in manufacturing in other sections. They conclude that the recent economic explanations of slow growth are inconsistent with the facts and they suggest that the cause was probably either the more traditional ex-

planation, "irrationality", and/or a massive failure in the region's capital markets — a result that many of their peers will not find to their liking. Their estimates of depreciation and unreported capital items will be questioned, as will their use of average, as opposed to marginal, rates of return. However, the work is in the best tradition of both the new and the old economic history; and scholars will have to take account of their findings whether they like them or not.

In terms of the magnitude and importance of the subject, no article compares with Peter Lindert's and Jeffrey Williamson's highly perceptive analytical review of the literature on the history of income distribution in the United States. The study is not based on new evidence but brings together the standard sources and a number of fragments, some not previously used in this way. Lindert and Williamson conclude, the revisionists aside, that there was a substantial movement toward greater equality in the period 1929–1951. Of more interest are their results for the earlier years. They argue that the colonial period was one of substantial equality, that the half century before the Civil War saw increasing inequality, and that the distribution did not become substantially worse during the much-maligned postbellum decades. If they are correct, scholars will be forced to reshift their search for the causes on inequality to a period some three or four decades earlier than that suggested both by Kuznets and the traditional literature.

Donald McCloskey's study of early British agriculture is an excellent example of the use of a formal model to extract strong conclusions from otherwise quite limited data. He is interested in explaining the decision by small farmers to scatter their land holdings despite the costs imposed by that choice. The evidence indicates that the farmers did resist consolidation — a resistance that has been explained in terms of a spirit of egalitarianism, the operation of inheritance laws, or as an aversion to risk. McCloskey provides a quantitative measure of the potential costs of a disaster that are attached to consolidated holdings and concludes that, given some risk aversion, those costs were sufficient to induce a rational farmer to "buy" insurance in the form of scattered plots. The model is clearly specified, and the reader can criticize the behavioral assumptions and see for himself just how strong the conclusions are in the face of changes in those assumptions. The model permits McCloskey to exploit the fragmentary data and produce a very compelling array of evidence in support of his major conclusion.

At the next level of interest — displaying fewer positive results but worthy of inclusion in any good journal — are the demographic articles by Larry Neal and by Robert Swierenga and Harry Stout. Neal uses cross-spectral analysis to examine the trans-Atlantic migrations and Swierenga and Stout look at the socioecoiomic origins of Dutch emigrants in the nineteenth century.

Neal makes surprisingly few claims. He is committed to a long-swing framework, but concludes that no single model will explain all the swings and that more and more complicated interactions among an increasing number of nations will have to be considered. His work is straightforward and his explanations (particularly of that often misunderstood technique, spectral analysis) very clear. Given his results, one may wonder if Neal will

conclude that the long swing hides more than it reveals. Nevertheless, the present work provides an analytical summary and a critical review of the present state of the art.

In the case of the Dutch emigrants, theory is nonexistent and the literature sparse. In the absence of any explanatory models, Swierenga and Stout have produced a solid piece. They have used new data sources and they have classified and described their emigrants in a wide variety of ways. Theirs is the kind of work that may well lead to some cohesive theory, and social history badly needs some sensible theoretic formulation.

John Hughes has produced an article that is both exciting and infuriating. He has turned his attention to one of the most important problems in the study of economic growth — the developments and transmission of institutional constraints on the economic process. Moreover, he brings to that study an understanding of legal history that is probably unparalleled among economic historians. It is with sheer delight that the reader is introduced to a history of legal rights and rules in Britain and in the colonial and federal United States. This material will become an important source for any study of American institutional development and almost any study of American development in general.

On other levels, however, the work is less successful. Professor Hughes has adopted a matrix notation whose usefulness is not readily apparent. It leads to few insights, and must be abandoned when the major finding — the absence of quantity controls among government policies — is discussed. Hughes also does not choose to speculate about the causes of innovation and transfer of institutional constraints. It is unlikely that anyone else is better prepared to discuss those very important subjects, and it is a shame that he has not devoted more time to them and less to his classification scheme.

The other articles are less successful. Joel Mokyr and N. Eugene Savin argue that the Napoleonic Wars induced in the British economy not only inflation but stagnation as well. Using a number of standard statistical series the authors econometrically fit a slightly disaggregated macromodel, and it is on that model their conclusions are based. The argument is an ingenious one but not completely convincing. Both the behavioral assumptions and a number of the authors' econometric decisions rest on assertions of certain stylized and, at times, not so stylized facts; and even the existence of the industrial stagnation rests on their very strong assumptions about the pattern of British growth. Moreover, the conclusions rest on a series of assumed rigidities and these are never fully investigated.

Kim McQuaid has written a history of the Business Advisory Council in the years from 1933 to 1961. In this introduction McQuaid builds a case for including studies of this type in an economic history collection, but there is little in the body of the article to justify that decision in this case.

Finally, Paul Uselding has drawn from the records of the death registration states for an estimate of occupational death rates in the progressive period. He concludes that the muckrakers may have been wrong about conditions of factory labor since death rates for other occupational categories were as high as for those in manufacturing, but does not emphasize that the muckrakers were concerned with the debilitating effects of *all* aspects of factory life, and not merely industrial accidents.

In general Volume I is a mixed success, and an analysis of its components suggests some thoughts for change. First, the original notion was to concentrate on articles of medium length, and without question those are the most successful. Moreover, the articles by Hughes, Neal, and Swierenga and Stout would almost certainly have been improved by selective expansion. Secondly, though it is difficult to tell academics what they should write, many book publishers still attempt to exercise a constructive review function and there is evidence that some similar innovation might improve the series. Even as excellent an article as Lindert and Williamson's might have benefited from an increased emphasis on nineteenth-century development and Hughes' article could have made a very important contribution to American economic history. Even in the absence of change, there is certainly a future for this annual series and both editor and publisher should be congratulated on their first effort. Moreover, the profession really owes the editor a hearty round of applause — Volume I does not contain a single article on slavery.

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THE SCHOOL UPON A HILL: EDUCATION AND SOCIETY IN COLONIAL NEW ENGLAND. ***By James Axtell. New Haven, Yale University Press, 1974. Pp. xxi + 298. $17.50.***

EDUCATION AND THE INDUSTRIAL REVOLUTION. ***By E. G. West. London, Batsford, 1975. Pp. 275. £6.50.***

Reviewed by Alexander J. Field
Assistant Professor of Economics
Stanford University

In recent years, the intellectual hegemony of the "human capital" approach has increased and, as the demand for many types of educated labor has declined, its apparent relevance has diminished. A number of scholars with an awareness of the methods and terminology of social science meanwhile have turned their attention to the historical development of educational systems. The two books under review contribute to this literature, although they deal with different regions (colonial New England vs. England and Scotland) in different centuries (the seventeenth and eighteenth vs. the nineteenth) and emphasize different mechanisms linking the creation and development of educational systems to social and economic change. E. G. West's book is informed by the presupposition that reliance on the market rather than on the state results in a more efficient satisfaction of the educational needs of a country. Much of it is a polemic against those who have argued that both the quality and the quantity of English education were poor by continental standards, particularly during the period of the industrial revolution. West argues that, on the contrary, English educational achievement in advance of the creation of a state-controlled national system was quite satisfactory, when compared either to other nineteenth-century countries at similar levels of development or to twentieth-century underdeveloped countries. James Axtell, on the other hand, concentrates on the mixed success of the heavily state-influenced educational

system in colonial New England in creating and transmitting the values of the original theocracies.

West's basic position is that parents, left to their own devices, spent as much money on education under a private system as was spent under a national or state-organized system of compulsory schooling, if not more. Furthermore, he argues, spending under a private system was (and is) more cost-effective because of greater opportunities for choice. He mentions imperfections in capital markets, but argues that these could have been dealt with by means of subsidies or government loan programs, and did not require the creation of a national system of education. But West has repeated difficulty with evidence regarding the social-structural functions of education, that is, the role of moral education in building character and reinforcing community standards of morality and obedience to law.

The author casts doubt, and with good reason, on some of the arguments set forth by nineteenth-century reformers in support of the proposition that schooling reinforces the social structure. But this in itself does not demonstrate the correctness of the hypothesis that education makes no contribution to social order, or even subverts it. Furthermore, West does not deal satisfactorily with the theoretical problem that the issue of moral education raises: to the extent that education contributes to order, "maximizing agents" (parents) operating through the market may provide less education for this purpose than would be socially desirable. West's attitude toward these and other problems is ambivalent. At times he describes them as if to imply that they are supported by the evidence. At other times (especially page 134), he treats these arguments as amusing examples of nineteenth-century ignorance, a position that he does not justify.

As a polemicist, West would have been better off had he avoided discussions of the function of moral education, rather than pointing out, correctly, that "the historical reasoning produced to support (free schooling) . . . in the nineteenth century was to protect the property of the rich and the middle classes (against the disorderly poor)" (231). West recognizes in several places that the relationship between education and industrialization is complex, but his obvious concern to use historical evidence to bolster a political position developed presumably from observation of current conditions prevents him from presenting a coherent analysis of that complex relation. Readers are likely to find much of the discussion hard to follow, not because there is no underlying organizing framework, but because much of the evidence discussed does not fit into this framework, despite West's efforts.

The author claims "to produce fully representative evidence by scrutinizing nearly all the data that is available, and in particular by examining clearly the same primary sources that are used by most writers in the field" (8). This is an exaggeration. West's work is explicitly aimed at a set of what he believes to be historical misconceptions. His presentation lacks a comprehensive discussion of the available evidence along with previous interpretations. This makes it difficult to place the evidence that he does present in context or to evaluate his interpretations. There is, for example, no treatment of the Baines survey of manufacturing dis-

tricts in Lancashire, Yorkshire, Cheshire, and Derbyshire, a survey that, although undertaken with the express objective of demonstrating the adequacy of a voluntary system, produced results substantially at variance with the general picture that West is trying to paint.

West's presentation is, in addition, not helped by a lack of proofreading, sloppy bibliography, and generally wooden prose. Such phrases as "this chapter has explained some fairly substantial differences in the balance of interpretation" (70) do not contribute to the overall appeal of the arguments.

If West is uncertain about the relation between education and social structure, Axtell is not; indeed that relation forms the central theme, insofar as there is one, in *The School Upon a Hill*. Axtell's aim is to illustrate the process of colonial socialization. He describes various aspects of childhood and society in colonial New England, including the courtship customs that often led to pregnancy, child-rearing practices, religious education, occupational choice, college schooling, and the impact of Indians on the New England culture. Axtell avoids statistical materials, relying almost entirely on documentary records of various sorts, which gives much of the book a rather impressionistic tone. His theoretical understanding of social structure is, however, considerably more sophisticated than West's. Axtell recognizes, for example, that "there can be no coherent social life unless the social relationships that bind people together are at least to some extent orderly, institutional, and predictable. If they are not, chaos reigns and society dissolves. Therefore, people must be subjected to a degree of compulsion to maintain the normal expectations of social relations" (136). Education within the family, church, school, and workplace was, in colonial New England, an important process whereby society communicated and enforced the written and unwritten rules holding it together, and created and maintained its cultural identity.

West does not ignore the evidence that in England education, at least in part, fulfilled a similar function, but he dismisses its importance, and is unable to accept Axtell's theoretical position, because it creates problems with West's apparent philosophical belief that all social relationships can and ought to be derived from the interaction of self-interested "maximizing agents." Axtell is not imprisoned by this position, but at times his documents exercise a different, but also constraining, influence on his writing. West's book is a battleground for hypotheses and generalizations, while Axtell's book, on the other hand, contains not a hint of a clearly articulated hypothesis, let alone an alternate hypothesis. There is relatively little discussion, for example, of the economic changes that took place in New England during the eighteenth century, and the possible impact they may have had on the organization of the educational system.

Axtell's book is primarily valuable for its clear application of the concept of socialization to the study of the historical development of an educational system. The formal and informal educational systems of any society are of course also involved in the formation of "human capital." Whereas the process of "human capital" formation, given perfect capital markets and no discrimination, could be left to the market, the

same is not true for socialization, because it involves important externalities.

A polemic, although flawed, may still be valuable if it forces us to re-examine cherished beliefs. The overall importance of *Education and the Industrial Revolution* depends on the extent to which West has tackled actual historical misconceptions as opposed to merely setting up straw men to knock them down. One might ask whether previous historians actually held the positions ascribed to them by West, but this is probably not sufficient; historical misconceptions may prevail in spite of the opinions of respected historians. In the absence of a retrospective survey, an evaluation of this issue will remain a matter for individual judgment.

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FAT MUTTON AND LIBERTY OF CONSCIENCE: SOCIETY IN RHODE ISLAND, 1636–1690. ***By Carl Bridenbaugh. Providence, R.I., Brown University Press, 1974. Pp. xxiv + 157. $8.00.***

Reviewed by Edward M. Cook, Jr.
Assistant Professor of History
University of Chicago

In this first modern reinterpretation of the history of seventeenth-century Rhode Island, the title summarizes the priorities of early Rhode Islanders. Although religious conflict precipitated the initial settlement on Narragansett Bay, both religious refugees and their fellow settlers chose the region with their eyes open to the rich opportunities it presented for commercial and agricultural exploitation. Narragansett Bay offered a magnificent harbor at Newport, and the complex of waterways provided an easy water transportation to a substantial hinterland. The Bay was dotted with islands, on which the settlers could securely pasture livestock, and its margins were covered with more lush meadows and more fertile upland than existed elsewhere in eastern New England. Mercantile ambitions, agricultural innovation, and the hunger for good land thus joined, and perhaps overshadowed, religious fragmentation and the prevalence of sects hostile to religious hierarchies as determinants of "the growth of a secular state, the expansion of settlement, and the development of a laissez-faire economy" (8).

Seventeenth-century Rhode Island has been a much-neglected area in recent historical writing, and this book makes a modest and timely beginning to the reinterpretation of its economic and social history. Only five brief chapters in length, *Fat Mutton* surveys Rhode Island society with the light, anecdotal style of a set of published essays, which it is in part. At the same time, it is so packed with information and so well documented that it provides a good introduction to the traditional sources for research. This introductory function is further enhanced by the book's mildly revisionist corrective to the filio-pietistic interpretation of the older Rhode Island historians. Carl Bridenbaugh shows that the Rhode Islanders were not singleminded religious zealots, just as their neighbors were not singleminded bigots, and helps to place the religious history of the tiny colony in broader perspective. He also discusses the great and widely

recognized potential for agricultural prosperity in the Narragansett region, which, he demonstrates, motivated much of the conflict for control of the colony during the seventeenth century. Neither argument will astonish historians who have studied seventeenth-century New England closely, but they do provide a stimulating re-evaluation of the traditional evidence and a reference point for further work on the economic and social history of the Narragansett region.

Although the book is a good beginning, it is by no means a definitive work. One characteristic of the book is its total neglect of the last generation's research on New England social history and of the methods that lie behind that research. Taking a page from his 1962 Presidential Address to the American Historical Association, Bridenbaugh begins with the observation that "American historians are all city slickers" (xix), works on the premise that "the neophytes of the historical profession" have hopelessly misinterpreted the rural patterns of seventeenth-century life, and starts at the level of defining the differences between bulls and cows. Throughout, he follows his well-known aversion to the use of quantitative techniques and social scientific methodology by using data, for example on landholding and occupational status, in a purely descriptive fashion. The result is that many opportunities are missed. Economic historians will find disappointing a discussion of economic trends that is devoid of numerical evidence, although they will find promising the citation of the mercantile papers and accounts that would sustain a more precise analysis. Similarly, social historians will find no attempt to exploit recent work on community and family dynamics to comparative advantage, and will wish that the generally excellent descriptions of agricultural practices and market organization had been extended by the systematic application of geographical analysis.

Despite these criticisms historians are in Professor Bridenbaugh's debt for this book. Readers of the secondary literature will find here a brief and intelligent treatment of the social development of the colony, while specialists will find here a modern starting point for further work.

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TELEPHONE: THE FIRST HUNDRED YEARS. ***By John Brooks. New York, Harper & Row, 1976. Pp. xii + 369. $12.50.***

Reviewed by Rosario J. Tosiello
Pine Manor College

John Brooks has written *Telephone* to fill the need for a "comprehensive, and objective history of the telephone, telephoning as a social act, [and] the American Telephone and Telegraph Company" (xi). He has only partially succeeded in achieving all of these goals.

Telephone is a comprehensive account ranging from the invention of the telephone to current business and technological developments. The final chapter even speculates about the future of telephony and the direction of AT&T. The author valiantly strives to present an objective account of his subject even though the book was commissioned by AT&T to commemorate its centennial. For example, Mr. Brooks presents a more sympathetic account of Elisha Gray, a rival claimant to the invention of the

THEODORE N. VAIL (1845–1920)
President, American Telephone & Telegraph Co., 1885–1887 and 1907–1919

telephone, than of Alexander Graham Bell, whose telephone patents made possible the establishment of the Bell System.

Mr. Brooks also recounts the many private and public challenges to the Bell System's monopoly. Although he is often critical of the Bell System as a regulated monopoly, he does finally conclude that such a position is probably justified. His conclusion is not based upon an assessment of the System's morality, "which, after all, can scarcely differ radically from the prevailing morality of its times and of its million employees," but upon its vitality. AT&T has avoided "hardening of the arteries" and therefore is capable of being responsive to public needs because of "the necessary discipline of direct, everyday contact with the millions of people it serves" (345).

Bits and pieces relating to the social side of telephony are interspersed throughout the account. For example, Mr. Brooks asserts that the telephone created "a new habit of mind — a habit of tenseness and alertness, of demanding and expecting immediate results, whether in business, love or other forms of social intercourse" (118). He also attributes the increased use of the telephone for abusive, obscene, and threatening purposes during the 1960s to a reduction in party lines, and thus a decreased chance of

detection, and a "disorganization of American society" (286). Such points as these are interesting and provocative, but collectively they do not constitute a social history of telephony.

The major shortcoming of this account results from its success in reducing one hundred years of important business and telephonic history into a modest three hundred and fifty pages. Despite Mr. Brooks' exaggerated claim of being the only "outside writer" in modern times given complete access to company files, he adds very little new information to the early history of AT&T. The author has chosen to rely upon published materials (some of which are biased and inaccurate) rather than to draw from the extensive materials located in AT&T's archives. Mr. Brooks has added some information about later periods of history through his interviews with Bell people and other interested parties.

In conclusion, *Telephone* is a readable and comprehensive overview of the telephone's first hundred years. It is clearly better than most company-inspired histories. *Telephone* is probably the best popular history of the Bell System. Nevertheless, for the serious student there is still need for a more informative account of AT&T's history.

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SYNTONY AND SPARK: THE ORIGINS OF RADIO. ***By Hugh G. J. Aitken. New York, John Wiley & Sons, 1976. Pp. xvi + 347. $15.95.***

Reviewed by James E. Brittain
Associate Professor of History of Science and Technology
Georgia Institute of Technology

Professor Hugh Aitken has written an interesting case study of the social systems of science, technology, and the economy, and their interaction. It is the first volume in a series on science, culture, and society under the general editorship of Bernard Barber. As one might have anticipated from the author of *Taylorism at Watertown Arsenal* (reviewed in this journal in 1960), *Syntony and Spark* provides a broad and reflective interpretation. It is quite different in style and emphasis from W. R. Maclaurin's *Invention and Innovation in the Radio Industry*. The prospective reader should be aware of Aitken's avocation as an amateur radio operator and "the distinctive cast of mind and thought it gives to those who practice it" (x). His careful analysis and description of the technical features of early radio experiments and systems may prove tedious to historians who do not share his curiosity about such matters as the dimensions and theory of early antennas. The bulk of the interpretive generalizations is in fact confined to two of the six chapters (entitled Prologue and Epilogue) intended especially for scholars having a professional interest "in how science, technology, and economics influence each other and how we should go about analyzing their relationships" (xi).

Aitken effectively demolishes the parasitic model of the science-technology relationship that has provided an ideological basis for U.S. science policy since World War II. Based on his case study of the origins of radio, he develops and analyzes more complex "approximation models" that employ concepts drawn from economics and feedback circuit theory. For example, he describes the "markets" that exist between both science and

technology and between technology and the economy. He identifies numerous feedback loops that link the systems and argues that both the rates of change and direction of transfer are interdependent. He admits ultimately that a "unified theory" would require a "more complete specification of the flows" and would also have to account for the influence of other social systems such as government (329). For those historians who may doubt the sufficiency of cliometric models, Aitken suggests a "third approximation model" that would "go beyond such a formal system of transactions and markets and recognize that we are dealing with patterns of human life, with the hopes, fears, frustrations, and disappointments of human beings" (329).

Aitken emphasizes the vital importance of the social role played by "translators" such as Heinrich Hertz, Oliver Lodge, and Guglielmo Marconi. Such individuals function at the interface (or in feedback loops) between systems, and seem necessary for effective transfer of knowledge. Since they are accustomed to ambivalence and conflicting values, translators, Aitken suggests, might be well qualified to exert responsible control over technological change. Aitken's use of the concept of syntony as a unifying theme demonstrates very effectively how insights from the history of ideas can be employed in technological history.

The book has a few historiographic weaknesses such as an over-reliance on secondary sources and acceptance of an interpretation of the relationship between Maxwell's theory and Hertz's experiments that has been altered somewhat by recent studies in the history of science. Despite this, it is pherhaps the best monograph yet written on the early history of an industry that has spawned a remarkable sequence of increasingly sophisticated systems during the twentieth century.

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THE DUKES OF DURHAM, 1865–1929. ***By Robert F. Durden. Durham, N.C. Duke University Press, 1975. Pp. xiv + 295. $9.75.***

Reviewed by Bennett H. Wall
Professor of History
Tulane University

As Robert F. Durden states in the preface, this volume is essentially the story of Washington Duke and two of his sons, Benjamin N. and James Buchanan. Duke, born in 1820, operated a farm in Orange County, North Carolina, to which he returned after service in the Confederate Army. General Joseph E. Johnston had just surrendered to General William T. Sherman near Durham and it was to that place Duke took his first load of smoking tobacco for sale. Soon he began to peddle his brand of tobacco regularly, "Pro Bono Publico," in sacks made by daughter Mary. Sons Buck and Ben helped prepare the tobacco for sale. In a few years his trading area included a good portion of North Carolina and southern Virginia. By 1872 the sales of the home-manufactured tobacco reached 125,000 pounds.

The three young Dukes were enrolled for varying intervals in New Garden School (later Guilford College). Except for mathematics, the curriculum there did not appeal to Buck who quickly dropped out to

return to the factory. Half-brother Brodie meanwhile had located in Durham and begun the manufacture of his own brand of tobacco. In 1874 having observed Brodie's operation, Washington Duke moved to Durham and located his factory next door to that of his son. From that time on the Duke family played a major role in the growing tobacco business and in the development of Durham.

In the 1870s Washington Duke began to deal with jobbers. Competition for markets proved keen, and the Dukes met it with redoubled effort. They poured their profit into plant and machinery. In 1878 they incorporated as "W. Duke, Sons and Company" with a new partner, George W. Watts.

W. Duke, Sons and Company expanded rapidly. In 1880 the father retired from the firm selling out to Richard W. Wright, a master salesman. Sons Buck and Ben, assisted by their partners, expanded their plants, increased production and sought world-wide outlets for their cigarettes. They gambled that the cigarette machine patented to James A. Bonsack would quickly replace hand-rolled cigarettes. The gamble paid off. In 1890 they created the American Tobacco Company, which became one of the major tobacco concerns in the world.

Buck and Ben Duke learned the art of industrial management and promotion quickly. They — especially Buck — became renowned figures in the competitive world of tobacco and of business generally. In a generation obsessed with finding simple causes for complex problems, the tobacco trust they created drew much unfavorable attention in the press and from the public. In 1908 the United States Department of Justice filed suit to break up the near monopoly exercised by the tobacco combination. Despite all efforts and Buck Duke's testimony, the government won the case, and in 1911 the Supreme Court ruled that the trust had to be dissolved. Buck then unscrambled the combination that he and Ben had enjoyed putting together.

While the tobacco business had engrossed the attention of the Dukes much of the time after 1880, they helped to create and finance other industrial and business ventures largely in the South. They early became interested in cotton mills, helped develop banking in Durham, Greensboro, Raleigh and Charlotte, built a short line railroad from Durham to a mill town then named Duke, and generally broadened their economic investments. As early as 1897 Ben became aware of the uses of electric power, and in the next decade he and brother Buck began to acquire numerous dam sites in North and South Carolina. In 1915 they incorporated the Southern Power Company in New Jersey and then began construction of a power plant at Great Falls near Charlotte. This led to the creation of the Duke Power Company in 1924.

The Dukes came to philanthropy via the Methodist Church. Washington and Ben first became interested in donating but soon all of them gave generously — to Durham, to hospitals, to church schools and colleges, and to their relatives. Ben Duke became ill in 1915 and ceased to be active in business. Thereafter, he led the way to major contributions but Buck followed. Given the suggestion, he plunged into the work of distributing his fortune, and in 1924 created The Duke Endowment

of $40,000,000 which provided that 32 per cent of the income therefrom should go to Duke University.

Given the materials available, Robert Durden has done all that anyone could do with the subject of the Dukes. The sources simply did not provide information adequate for him to pass judgment on the Dukes' labor policies, solution of managerial problems, business methods, involvement in business struggles — activities and decisions of interest to business historians. He did not set out to chronicle the growth of the tobacco trust; in fact, after reading Durden's bibliographical notes one is inclined to doubt that the story of the tobacco corporations will ever be fully told.

Buck and Ben Duke may have been swashbuckling business pirates similar to those portrayed in muckrake volumes or they may have been clean living "WASP" types driven by the work ethic to achieve for God's kingdom. Since evidence to fully document either role is lacking, the story of the Dukes given the reader does not contain the high drama from their lives that must have been there, yet Durden used what he had, not what he imagined. His volume is carefully researched, scholarly, engagingly written, and is a real contribution to our information on the Dukes. He related — and well — as much of the Duke story as his evidence permitted. More than that he could not do.

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WEST VIRGINIA AND THE CAPTAINS OF INDUSTRY. ***By John Alexander Williams. Morgantown, West Virginia, West Virginia University Foundation, 1976. Pp. vii + 352. $11.00.***

Reviewed by Julian C. Skaggs
Assistant Professor of History
Widener College

West Virginia never quite lived up to its apparent potential. Its people are seen as backward, poor, and fierce, while the handsome countryside bears the marks of ugly pillage. John Alexander Williams writes that the cause of all this lies in the nature of the resources of West Virginia and the nature of the men who went after them between 1880 and 1913.

The economy of post-Civil-War West Virginia was based on the extraction of coal, timber, and gas. The rise of these industries invited the development of a colonial economy that could serve the energy requirements of metropolitan areas beyond the borders of West Virginia. The men who controlled the resources after 1880 went on to overthrow the old political leadership that had created the state during the Civil War.

These new men, some of them carpetbaggers, formed a *comprador* class that exploited the resources of the state for themselves and others. The most important of these *compradors* were Johnson Camden, Henry Davis, Nathan Scott, and Stephen B. Elkins. Coal and local railroads bound all of them together. Further, all were members of the U.S. Senate at one time or another between 1880 and 1913. Camden and Davis were Democrats. Scott and Elkins were Republicans. The Gordian Knot was completed by Elkins' marriage to Davis' daughter.

With this bundle of common interests, experiences, and kinship bind-

ing these men, it comes as no surprise to find that their political affiliations made little difference for West Virginia. Indeed, Williams shows that Davis sabotaged his own Democratic party over the issue of a tariff on coal and that he encouraged his son-in-law Elkins to establish a residence in West Virginia in order to find political advancement there. Elkins did so in the mid-1880s and began to apply his considerable resources and talents to reviving Republican fortunes in that state. This, combined with the purchase of newspapers, the issuance of free railroad passes, and the wreck of the national Democratic party in 1894, did the rest. By 1900 West Virginia was a Republican state. The state Democratic leaders, though defeated, comforted themselves with the knowledge that they would make a lot of money with the Republicans in office.

To this point, we have a familiar story of artful buccaneers bent on legal pillage and political advancement. There is another dimension to the story, however. Williams shows that while Davis, Elkins, and the others attended to their fortunes and political affairs locally, they made certain simultaneous accommodations with the masters of the metropolitan areas served by West Virginia's coal, oil, gas, timber, and railroads. On the face of it, these arrangements were pleasant and profitable enough. Camden made money serving Standard Oil, and Davis and Elkins made a handsome profit by selling their railroads to the younger Gould. Still, a measure of the power and independence of the West Virginians had been compromised. Things got worse later in 1904 when the lobbyists from Standard Oil and the railroads massacred a moderate tax-reform bill designed to ease the state's revenue crisis. This bill had Elkins' endorsement and he wondered why "our friends who control the great interests of the state" started "an uncalled for war?" (230).

That was a good question, but the author fails to give any answers beyond the observation that "perhaps the persuaders got out of hand" (231). An issue that begs for clarification is left dangling. It appears that West Virginia's captains were merely lieutenants.

There are other difficulties in the work that require comment. The book bears the marks of a dissertation rushed into print. It is badly organized. The author repeatedly introduces material that is to be "more fully discussed later" (25). Dreadful colloquialisms assault the reader: patronage jobs are called "goodies" (215), Elkins manages to "keep his cool" (240), and a state revenue bill is the cause of a "hassle" (213). The work is discursive and its syntax often ambiguous; it wants sharper focus and compression. Mr. Williams' editors have not served him well.

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WESTERN RIVER TRANSPORTATION: THE ERA OF EARLY INTERNAL DEVELOPMENT, 1810–1860. ***By Erik F. Haites, James Mak, and Gary M. Walton. Baltimore, Johns Hopkins University Press, 1975. Pp. xi + 209. $12.50.***

Reviewed by Fred V. Carstensen
Assistant Professor of History
University of Virginia

Economic historians have long recognized that economic development was closely dependent upon effective market areas for goods, and effective market areas often depended on the cost of moving those goods. Thus reductions in transportation costs played a central role in the pace and pattern of economic growth. The latest breed of economic historian has striven to bring the tools of economic analysis together with the traditional tool of quantification to assess explicitly the scope and impact of those cost reductions. Erik F. Haites, James Mak, and Gary M. Walton consciously set out to provide a study of antebellum river transportation parallel to recent econometric studies of railroads and canals. They also acknowledge that their short (123 pages plus appendices) and narrowly conceived study serves largely to amplify, not to revise, Louis Hunter's superb *Steamboats on Western Rivers*; the book, which has appeared with only slight differences as articles, is a valuable amplification.

Mustering all the quantitative data they can — unfortunately, that data is limited primarily to the Louisville-New Orleans trunk route — the authors provide detailed, restrained analysis of the costs of construction and operation of flatboats, keelboats, and steamboats, a careful consideration of revenues, profitability, and productivities, and an evaluation of the pattern of utilization of each mode of river transportation. This collection and evaluation of data is in itself an important contribution. The study also provides an interesting dissection of the interdependencies and complementarities between old and new technologies: e.g., keelboats moving back into tributary rivers to serve as feeders, thereby effectively extending the range of riverboat services; steamboats making flatboats more efficient and competitive by providing quick, relatively cheap upstream passage for flatboat crews. The valuable identification of the gradual, continuing improvement in both flatboat and steamboat technology throughout the period reminds us that technological change is not confined to new industries and rarely appears as a sharp discontinuity, an observation reinforced by the study's conclusion that steamboating was expanding — not contracting — through 1860 and well beyond. More generally, the analysis of the dominant role of steamboats in antebellum western development reminds us that it was the application of steam power, whether on land or water, that had the greatest impact on transforming the nineteenth-century American economic landscape.

But this study is not without its weaknesses. The very narrowness of conception led to an almost exclusive concentration on the most easily available and analyzed data — that on riverboat operation — even though those very data suggest that much cost reduction came as a result of commercial and organizational changes, changes that remained largely unidentified. Though the authors recognize the complementarities be-

tween old and new riverboat technologies, they mention only once, and then in passing, the possible complementarities between river and rail. Yet Lass (whom they cite) and Merk (whom they do not cite) both discuss in detail how that very complementarity transformed Missouri and Upper Mississippi riverboating before the Civil War, making the riverboat system a feeder network for the railroads. Most dramatically, they concentrate almost exclusively on downriver traffic as the measure for the growth and impact of riverboating and for comparison with the northern and northeastern gateways. Though it is obvious that, between 1840 and 1860, it was the bulk of downstream cargoes that set the market for riverboat capacity, it is not sufficient then to assume that this was the sole cause of the crisis in utilization of upriver capacity. The upstream traffic in merchandise and people may have been diminished relatively and absolutely by the improving water and rail connections through the northern gateway. Indeed, it is precisely these parts of the traffic that we would expect, *a priori*, to be taken by that alternative route. And if it is true that producers produce in order to consume, the pattern of traffic in these imports is fully as important as the pattern of traffic in exports. By failing to broaden the analysis to include consideration of the commercial and organization changes associated with riverboating, by neglecting the complementarities between river and rail, and by excluding evaluation of the pattern of movement of goods and people upstream, the authors turn their study into an invitation to others to consider more fully the business of antebellum transportation and its role in the economic development of the antebellum trans-Appalachian west.

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OIL AND POLITICS IN MODERN BRAZIL. ***By Peter Seaborn Smith. Toronto, Macmillan Company of Canada, Ltd., 1976. Pp. xii + 289. $19.95.***

Reviewed by Mira Wilkins
Professor of Economics
Florida International University

As I start to review this volume in July 1976, Brazil seeks foreign companies to explore for oil. If arrangements are made, they will reverse a persistent long term opposite policy: no international oil company has ever had success in exploring for and finding oil in Brazil. Peter Seaborn Smith's book considers the evolution of Brazilian policies toward oil exploration and production. Using mainly Brazilian sources, principally newspapers, Smith is concerned with Brazilian public opinion and its influence on national oil policies.

The author lacks knowledge of the international oil industry. This results in some bizarre statements. The Preface, for example, contains the following generalization: "State oil companies in the non-Communist world, with the exception of Brazil, have been afterthoughts, coming into being only after a national oil industry — or simply oil production — had been firmly established by private company effort." This all-encompassing declaration fails completely to describe such individual state oil enterprises as Argentina's YPF (the predecessor of which found the first oil in Argentina), or Italy's ENI (the predecessor of which started in marketing

oil), or France's CFP (with a different history). The book is also deficient in its account of the foreign impact on the Brazilian industry. Smith appears to know little of the interest of U.S. oil compaines in exploring in Brazil after World War I, and the little he knows he fails to integrate effectively with other available information. The author makes no mention of Brazil's foreign exchange problems of the 1930s that made Brazilians extremely eager to find oil, nor is there mention of the East Texas oil fields and the low oil prices of that decade that discouraged foreign companies from developing new oil fields.

The business historian will be disappointed that Smith did not have access to the records of Brazil's national oil company, Petrobrás. Often Smith reports "rumors," but neglects to tell the reader whether the rumors were founded in fact, (for example, there is the rumor that a Rio refinery would have Socony-Vacuum Oil Company financing but no indication of its truth [79]). In fairness, for Smith's purposes, rumors, to the extent that they may influence policy, become of crucial importance. The business historian wants, however, to know more.

An additional weakness seems to lie in Smith's analysis of Brazilian business interest groups. Several times Smith points out that a new nationalistic business elite arose in Brazil to compete for power with the older internationally-inclined export-oriented business sector. The traditional businessmen were said to be opposed to the nationalism of Petrobrás, since it would further entrench the new industry-oriented business elite (82, 93, 98, and 168). This analysis seems insufficient, for it ignores the oft-noted phenomenon of the Sao Paulo business hierarchy drawing its origins from the large coffee plantation owners. I would like to see more about who owned the private Brazilian oil refineries (how did Uruguayan and Argentine Interests get involved when, by law, refining was to be confined to Brazilians?), more about what nationalism meant to specific Brazilian businessmen, more about the relationship between the military's nationalism and the business community, and more about the extent to which Smith's implied dichotomy in business interests actually influenced policy. The relation of the new industrial elite to Petrobrás is shadowy, to say the least. At one point, Smith actually seems to use the phrases "new business elite" and "the Brazilian populace" as synonymous (168). Surely, he cannot mean this.

The book has strengths, as well as these weaknesses. Smith provides materials not otherwise available in English on Brazilian oil history. He is fine when he deals with Brazilian rebuffs to Standard Oil (N.J.)'s three offers of 1940-1942 to participate in joint-ventures in Brazilian oil production. I like what he writes on interest groups in 1943–1950, and his treatment of Vargas' policies 1950-1954 is fascinating. On Petrobrás itself, he has many insights, from the effects of numerous presidents to the effects of the assumption that Brazil had abundant oil. Smith does recognize the crucial role of the military in Brazilian oil history. He also understands the deep emotional reaction in Brazil to "the trusts."

The publisher of this volume is to be praised for allowing the inclusion of excellent maps and a useful glossary of special terms and abbreviations.

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IVORY AND SLAVES IN EAST CENTRAL AFRICA. ***By Edward A. Alpers. Berkeley, University of California Press, 1975. Pp xvii + 296. $13.50.***

Reviewed by B. Marie Perinbam
Associate Professor of History
University of Maryland, College Park

During the 1960s, the co-called "development decade," some economic planners argued for the application of modified models of Western European economic development to Third World phenomena. Assessing the historical role of mercantile, financial, and industrial capitalism in Western economies, they believed that similar forms of economic development could be replicated elsewhere. Exponents of this view included economists such as Walt W. Rostow.

Since the 1960s, however, the widening gap between economic expectations and realities has caused others to reject these earlier assumptions. Instead, these critics argue that when production modes and distribution become integrated into dominant external capitalist market economies, underdevelopment accrues, because causally related dependency linkages develop that are structural in nature. Moreover, this dependency affects Third World decision makers, whose function in relation to their own economies is restricted by decisions made elsewhere, usually by the organizers of the external economy on which their own has become dependent. Finally, critics of the applicability of Western developmental models to the Third World argue that a structural correlation exists between economic linkages and leakages; and that the structural conduits by which external capital goods, technologies, and other capital investments link dependent economies with external dominant economies are the same or similar to those that leak, or drain labor value to the benefit of the dominant economy. The final result is that dependent economies enter into the dynamic process of underdevelopment. Exponents of variations of this view include Johan Galtung, Samir Amin, and Arghiri Emmanuel.

Edward A. Alper's book examines selected historical dimensions of the underdevelopment process in East Central Africa from the late fifteenth to the nineteenth centuries. Throughout he demonstrates, as indeed he does elsewhere (e.g., "Re-thinking African Economic History: A Contribution to the Discussion of the Roots of Underdevelopment," *Ufahamu*, 111, 3 [1973], 97–129), that the changing patterns of international trade in East Central Africa during these centuries, including the initiatives taken by Africans themselves, have contributed to contemporary problems of underdevelopment (xvi). Moreover, demonstrating the historical roots of unequal exchange (a facet of underdevelopment), he argues that while slaves and ivory fetched high prices in Indian, European, and American markets, "no mutually advantageous exchange" existed, and above all, there was "no compensatory exchange or technology for the . . . depletion of the African working force" (266). Instead, the multiplier effects concentrated "more wealth in the hands of fewer people," resulting in conflicting political and social ramifications.

Skillfully integrating this thesis into a complex socio-political analysis, Alpers concludes that the emphasis on international trade produced un-

desirable social and economic consequences. For example, as men of the Yao ethnic group accumulated surpluses in the "purely extractive economic activities for the luxury trade in ivory of the Eastern and . . . Western worlds," their economic values mistakenly identified economic growth with economic development. Consequently, truly productive aspects of the economy, such as manufacturing and agriculture either were neglected, or in the case of the latter, were left largely in the hands of women who became the producers of real wealth (30). This uneven development "disastrously skewed" Yao economies, and set them on an underdevelopment course (31). Finally, Alpers makes the much neglected observation that Europeans were not alone in contributing to East Central Africa pre-colonial underdevelopment, but that Arab, Indian, and American commercial endeavors also played a part.

These significant observations notwithstanding, we would have appreciated insights into reasons why the businesslike, profit-oriented Yao should have been such poor economic planners. Apart from obvious external pressures, can this loss of control over the international trade also be linked to limited domestic markets? Was capital accumulation too small to make a significant impact on domestic economies? To what extent did internal political factors intervene? Alpers may have lacked data to develop these issues satisfactorily. Yet his evidence implicitly raises them. In any event, this is a sound book written by a serious scholar whose research has taken him not only to Portuguese, French, British, Italian, Spanish, and Indian archives, but also to field work in Africa. With caution, good judgment, and criticism of difficult sources, Alpers has constructed a valid thesis. His book is a significant contribution to the pre-colonial history of East Central Africa. In addition to being good history, it indirectly contributes to our understanding of why the "development decade" fell short of its expectations.

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BIBLIOGRAPHY OF INDUSTRIAL RELATIONS IN THE RAILROAD INDUSTRY. ***By James O. Morris. Ithaca, New York, New York State School of Industrial and Labor Relations, Cornell University, 1975. Pp. xvi + 153. $5.00.***

Reviewed by Donovan L. Hofsommer
Associate Professor of History
Wayland College

During the past several years, the Labor-Management Documentation Center of the New York State School of Industrial Relations at Cornell University has been engaged in an ambitious attempt to build there an excellent collection of documents and records on railroad industrial relations. Initial success has been impressive. Rail unions have enthusiastically contributed to these holdings, as have certain of the carriers, and a variety of individuals. All this is reflected in the ILR School's new *Bibliography of Industrial Relations in the Railroad Industry*.

The stated purpose of the bibliography is "to identify all quality materials of a nonfictional nature, published or unpublished, relating to industrial relations in the railroad industry (xi)." The listings are divided into

specific categories, and the citations — except those of a general nature — are presented chronologically according to date of publication. Not surprisingly, the sections dealing with the labor force, working conditions, unions and workers, labor legislations, and retirement/protective programs are especially noteworthy. Disappointingly shallow, however, are the sections on bibliographies, manuscript collections, and general works in railroad history. And one might question the decision to omit listings of fiction since there is a relatively large body of it from the early part of this century that reflects well both the attitudes of railroaders and the circumstances of their working conditions. Finally, an author index — not included — would have been very helpful.

None of this is to say that the bibliography lacks value. Indeed, the opposite is true. Perhaps the ILR School will eventually bring out a second and even more valuable edition. Meanwhile, this one should be on the shelves of all reference libraries, most college and university libraries, and is a must for any diligent student of railroad or labor history. An added bonus is the pleasantly low purchase price: only $5.00.

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THE ORIGINS OF THE NATIONAL RECOVERY ADMINISTRATION: BUSINESS, GOVERNMENT, AND THE TRADE ASSOCIATION ISSUE, 1921–1933. ***By Robert F. Himmelberg. New York, Fordham University Press, 1976. Pp. vii + 232. $20.00, cloth; $7.50, paper.***

Reviewed by Robert M. Collins
Assistant Professor of History
North Carolina State University

Complexity has replaced conflict and consensus as the major theme in recent American historical writing, and this book on business-government relations is proof that the new emphasis makes for superior history. Robert F. Himmelberg argues convincingly that the New Deal's National Recovery Administration was not an aberrant response to the Great Depression, but rather "the culmination of a movement to turn public policy toward favoring cooperative market controls which dated back to the postwar push for antitrust liberalization" (219).

In tracing the ebb and flow of business agitation for revision of the antitrust laws, the author makes it clear that the popular myth of business domination of a passive federal government during the twenties requires careful qualification. The intensity of business demands for the relaxation of antitrust constraints and the response of the government to such pressures depended on a number of variables, including the attitudes and ambitions of public officials, the climate of popular opinion, and the general condition of the economy. The trade association movement, for example, was placed on the defensive by the strict enforcement practices of the Harding regime. When the politically ambitious Attorney General Harry Daugherty responded to public concern about price-fixing by placing severe limits on the statistical exchange programs then common, business spokesmen muted their demands for radical antitrust revision and concentrated instead on defending established prerogatives.

The drive to emasculate traditional anti-cartel policy began anew under

the friendlier Coolidge administration. Final impetus was provided by the onset of the Depression and the unwillingness of Hoover — for political and ideological reasons — to countenance wholesale violation of the existing antitrust laws. The study concludes with a thorough and sophisticated examination of the National Industrial Recovery Act itself, an analysis that emphasizes the pre-eminent, but not exclusive, influence of business opinion on the drafting of the NRA's legislative charter.

Himmelberg's strength is his ability to recognize and convey complexity while still managing to render it comprehensible. He refuses to treat either government or business as monolithic. Public agencies such as the Federal Trade Commission and the Departments of Commerce and Justice often disagreed as to the proper role of trade associations in a competitive economy. The author's analysis of these differences adds new dimensions to the traditional government-business dualism.

Divisions in the public realm were matched by splits within the ranks of business. Many businessmen were slow to rally to the cause of antitrust revision. Making full and imaginative use of what little quantifiable evidence is available, Himmelberg contends that the leadership of the revisionist movement came largely from those segments of business that enjoyed relatively low profit rates during the twenties. Manufacturers of producers' and undifferentiated consumers' goods were particularly vocal, as were representatives of the natural resource industries. Caught in a "profitless prosperity" (76), these older, basic industries sought radical solutions to their economic problems long before the Depression caused such sentiment to become widespread in the business community.

Having illuminated this underlying pattern of business behavior, the author explicitly denies the older, simpler view that opinion on the question of antitrust revision was determined primarily by firm size and that the Recovery Act represented a victory of big business over small. His argument on this point is weakened, however, by his failure to apply basic organizational theory in his analysis of trade association behavior. His discussion of the revisionist leadership, for example, assumes that trade association spokesmen were democratic representatives of their industries as a whole and that they acted in the interest of all the firms in their constituency. In light of David Truman's findings regarding the role of "active minorities" in interest groups (see *The Governmental Process*), it would seem more reasonable to assume that the policies of such trade associations were in fact determined by a small segment of the industry involved, quite probably a minority of relatively large firms. Thus, the big business-small business dichotomy may still lurk in the dark recesses of Himmelberg's "profitless prosperity" model.

Such faults notwithstanding, this book is a singularly important contribution to our understanding of the intricacies of business-government interaction. It continues the by now largely successful assault on the concept of the New Deal as a revolutionary response to radically new problems, and emphasizes in telling fashion the significance of the 1920s in the development of the modern American political economy.

• • •

ETHICS AND PROFITS: THE CRISIS OF CONFIDENCE IN AMERICAN BUSINESS. ***By Leonard Silk and David Vogel. New York, Simon and Schuster, 1976. Pp. 251. $8.95.***

Reviewed by George C. Lodge
Professor of Business Administration
Harvard Business School

This book is a dialogue between American corporate leaders and their critics in the universities, the press, and the pages of history. It is a brilliant, deft, and balanced portrayal of the confusion, doubt, and anxiety that pervades the relationship between great publicly-held corporations and the society that they serve and affect. It exposes the ideological schizophrenia of business leaders, holding before them a mirror made of their own words. Clear and gripping, it is the best of a number of recent similar efforts to clarify the uncertainty that beclouds business-community relations.

Leonard Silk is an economist and a member of the editorial board of *The New York Times;* David Vogel is a Professor at the University of California, Berkeley. Together they interviewed 360 executives, representing what they assure us is "a fair cross-section" of the country's business leaders at a series of off-the-record meetings arranged by The Conference Board. The book consists of quotations from these interviews interspersed with commentary by the authors, who summon the help of an interesting collection of historians and philosophers, past and present. One might suppose that such a technique would make for a dull and diffuse book. Not so. The authors know very clearly where they are going at all times; the story is tight and clear; and the reader is carried quickly — almost breathlessly — through the pages.

What emerges is a poignant and in some ways tragic portrait of the American big businessman in 1976: offended, hostile, suspicious, and often guilt-ridden, he neither trusts nor feels trusted. Isolated, he desperately wants communication. Crying out for order, he fears nothing more than the government action order requires. Worried about freedom, he is deeply suspicious of popular democracy. As he warns against the inflationary effects of "rising entitlements," he admits, "we (businessmen) have promised too much in our enthusiasm." Extolling the virtues of consumer desire in the market place as a good and sufficient control upon the uses of property, he warns "we have to get away from an economy of endless consumption." Recognizing competition as a virtue, he seeks to avoid the application of the antitrust laws in the name of greater community needs of efficiency, economies of scale, and profit for investment.

The power of the authors' technique is evident in the following quotations of business leaders discussing corporate legitimacy and purpose:

— What we have is a business civilization. We must communicate this fact.

— We are the free enterprise system. We should be proud of it and defend it.

— We are like the head of a household, and the public sector is like our wife and children. They can consume only what we produce.

— The corporation is a creature of society. . . . We are hired guns. It is simply a matter of someone pointing us in the right direction.

— We pay the government well. It should do its job and leave us alone to do ours.
— We find ourselves in an adversary relationship with the bureaucracy. We must find a way of making government a partner with business.
— The issue is not corporate involvement in social change, but preserving our autonomy.
— The main social responsibility of business is to insure the survival of the free enterprise system.

The businessmen in this book beg for understanding, blaming the press and professors for twisting young minds away from the truths of free enterprise. Unquestionably their organizations are, as the authors make clear, the lifeblood of the American economy and society. Without them our country would be quite literally dead: lacking heat, light, food, clothes, transportation, or communications. And yet for all their importance, the authors point out, these men have in many ways less power than their critics assume. They are only part of a system, caught between forces beyond their reach with which they seem to be engaged in some odd sort of "cold war," their legitimacy deteriorating as they sing the old hymns louder and louder.

With insight, sympathy, and understanding the authors have put the strange problem before us, suggesting some ways to solution: (1) Facing facts, i.e., General Motors, IBM and the rest — whatever they might have been at their beginning — are not now "private" enterprise. They are public undertakings vitally tied to the public interest in service of public needs. The old ideology doesn't fit the new models; business must preach what it practices. The authors call for ideological renovation in the name of the new reality. (2) Clarifying roles. Business has a job to do; so does government. Business' suggestion that it can do government's is as much a suggestion of anarchy as the persistent distrust of our democratic institutions is an invitation to authoritarianism. (3) There is no substitute for integrity. In the last analysis the problems of our society — business and government — will be solved only by men and women of character and honesty who place the good of the community above their personal interests.

• • •

THE EUROPEAN MULTINATIONALS: A RENEWED CHALLENGE TO AMERICAN AND BRITISH BIG BUSINESS. ***By Lawrence G. Franko. Stamford, Conn., Greylock Publishers, 1976. Pp. xii + 276. $14.95.***

Reviewed by Mira Wilkins
Professor of Economics
Florida International University

Lawrence Franko has a DBA in international business from Harvard Business School. He is not an historian. These two sentences probably account for both the value and the limitations of his historical writing. Franko begins with the present: eighty-two of the largest eighty-five Continental European industrial enterprises had in 1971 at least one foreign manufacturing subsidiary. What is the history of the international business

of these companies? Automatically, this approach precludes consideration of the history of European foreign investments in railroads, of direct foreign investments of the Rothschilds and the Nobels, or of the Deutsche Bank's vast pre-World War I multinational expansion. Thus this book does not give us a history of European business abroad, but rather a history of *present-day* European international business. The distinction tempers all of Franko's generalizations. Accordingly, the statement that "the Continentals were late-comers to [foreign investments in] the resource-based industries outside of iron-ore and aluminum" neglects, for example, the substantial pre-World War I European interests in Russian oil.

Expansion of European multinationals was based, Franko believes, on European technological advances, which differed from those of Americans: "American innovations were typically skewed towards goods and processes that had appeal to the unique high-income labor-short American market;" European innovations that were placed into foreign production seem "to have been biased toward material-saving processes, ersatz material substitutes, and goods oriented toward low-income consumers." Herein, Franko argues, lies a fundamental distinction between U.S. and European multinational business.

Lack of space precludes detailed dissection of this argument, but one facet of it seems particularly vulnerable: the impetus to European business abroad given by scarce European resources. In this case, as with the rest of the generalization, I find Franko's argument too simple. Franko frequently insists that historically resources were scarce in Europe, abundant in the United States. Synthetic nitrates were developed in Europe because of "scarce resources," he says, but he fails to note that the United States also lacked natural nitrates. He argues that Germany, not France, developed synthetic nitrates, because France had phosphates in North Africa to substitute for nitrates in fertilizer (he might have added that the United States also had phosphates). But phosphates cannot replace nitrates in fertilizers, since each is a different nutrient. Does Franko believe that French agronomists thought they were substitutable? I would suggest that there are far more complex and satisfying explanations beyond shortage of fertilizer materials to account for German leadership in synthetic nitrate innovations. The United States used imported or homemade dyestuffs rather than natural dyes as soon as dyestuffs were developed abroad (shortage fails to explain German innovation). The United States grew no rubber, nor did it have silk cultivation. European innovations in synthetic rubber and rayon cannot, therefore, be accounted for solely by these particular scarce resources. On the other hand, technological advances by Europeans that economized on oil do fit Franko's model, yet these were few. I find the argument that early German advances in the electrical industry were associated with an oil-short economy very strained.

Franko shows that the European multinationals manufactured abroad before 1914 primarily in the United Kingdom, Europe, and the United States, and not in less developed lands. In the inter-war period, their expansion was broader, but Continental companies were not partial in their choice of factory locations to their colonies or, later, to their former colonies. On the other hand, these enterprises were systematically excluded from

manufacturing in the British Empire. Franko has a fine chapter on Europeans manufacturing in the United States.

His book contains helpful data on raw material stakes of Cockerill, ARBED, Krupp, Thyssen, Metallgesellschaft, and Royal Dutch-Shell. He finds that fully 49 per cent (68 per cent if Royal Dutch-Shell is excluded) of the foreign extractive ventures of his eighty-five firms before 1946 were on the European continent and that extractive as well as manufacturing investments in European colonies were limited. "The returns from colonies, if returns there were, were mainly non-industrial and psychic, for enterprise and state strategies were an imperfect match."

Franko considers motivations for European foreign investments, exploring arguments developed by others (including responses to threats, defensive behavior, taking of hostages). The weight of empirical evidence on U.S. foreign direct investment indicates he believes, that the role of trade barriers in triggering foreign manufacturing was secondary. To this reviewer the statement is overly simple: in some cases, in some periods, in some countries, trade barriers were crucial to U.S. decision makers; in other situations, such barriers were unimportant. By contrast, Franko is sure that European foreign investment was greatly influenced by trade barriers. I remain unconvinced that "it was perhaps the degree to which national policies influenced Continental behavior that most distinguished the story of Continental multinational enterprise from the story of the American multinationals." On the other hand, Franko's comments on European firms' adaptability to negotiated environments, as reflected in joint-ventures and in their operations in less developed countries, seem very perceptive.

I had hoped to use this book for historical data on particular European multinationals. It is less helpful in this respect than I had anticipated, although the bibliography is invaluable. The problems are numerous. For instance, Franko reports that the principal precursor of Nestlé, The Anglo-Swiss Condensed Milk Company, was founded by two Americans; actually there were two principal precursors, the Anglo-Swiss firm and the Nestlé company, which merged in 1905. We are told that in the early 1920s the Luxembourg steel firm ARBED "acquired" a manufacturing affiliate in Brazil to retain its market. What did it manufacture? In the early 1920s Brazil did not have a steel industry. Ciba-Geigy started to manufacture synthetic dyestuffs in the United States in 1920. Which one? The two firms did not merge until 1971.

Franko's disconnected treatment of the impact of the two World Wars on the international business of Continental firms fails to accent how profoundly the wars shaped European business.

Franko makes stimulating suggestions about the roles of intermarried social elites and personal relations and their impact on international combines. His elaboration moves him into data on organizational structures of European enterprises. His statement that European companies' organizational structures did not follow strategies seems to me refuted by his text. European enterprises had different histories from American firms; their strategies varied; their structural responses fit their own histories and seem to me to coincide well with the notion of structure following strategy.

The index of the book is dreadful. Family names such as the Quandts,

Flicks, and Wallenbergs are excluded, as is Kreuger. From the index, the reader cannot find discussions of location decisions, integration theory, product cycle theory, "fifth column behavior," "exchange of hostages," "exchange of threats," mother-daughter reporting relationships, even though the book has much to say on these topics.

Despite my criticisms, I take what Franko says seriously. There is new and useful material here. The book is challenging. The author recognizes that European business pioneered abroad in different products than did American enterprise (an important point that needed making, for the literature has been unclear on this subject). He pushes us to ask significant questions about European business. Historians will be both frustrated and delighted.

• • •

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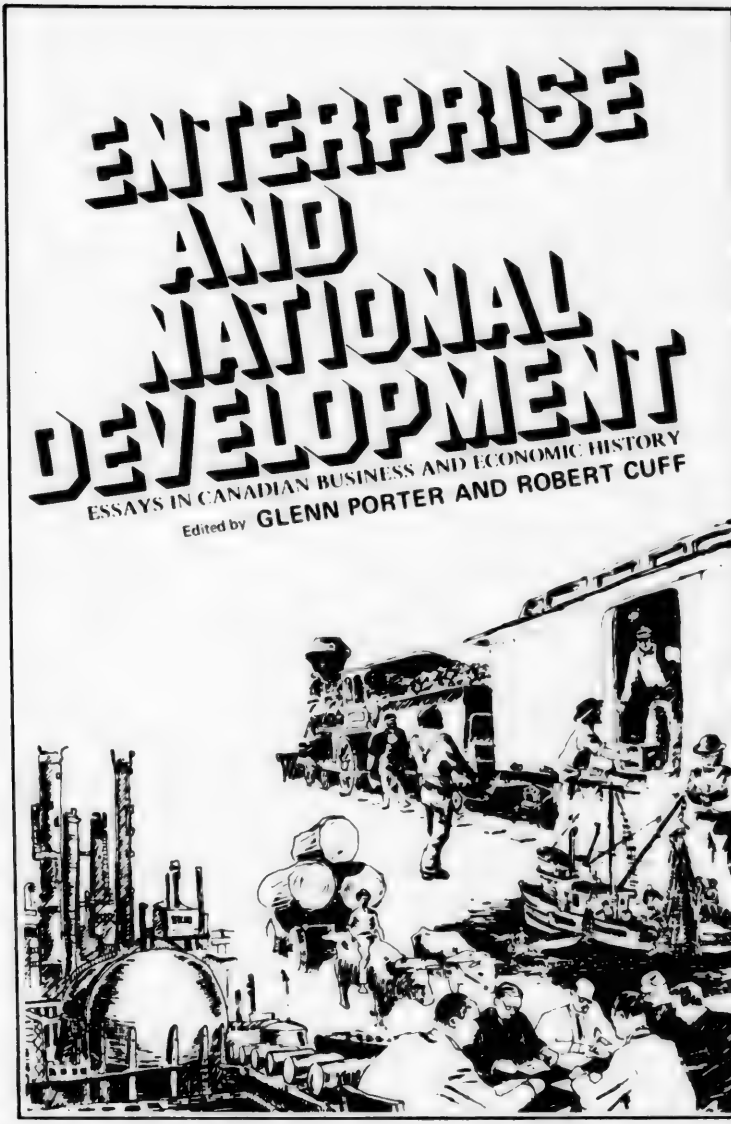

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These essays appeared originally in *Business History Review*. Contributors: Glenn Porter, Christopher Armstrong, H. V. Nelles, Michael Bliss, T. W. Acheson, Stephen Scheinberg, Patricia E. Roy, Alan Wilson. 138 pp. $2.50/$6.95.

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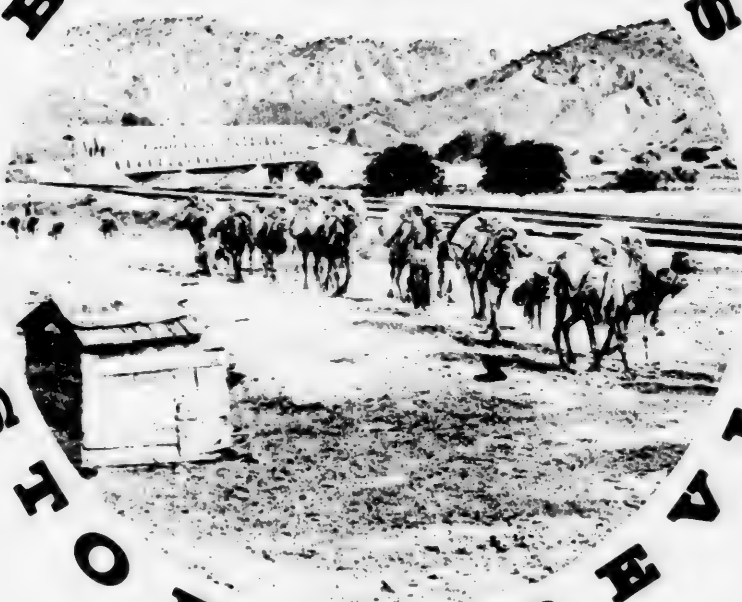

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COVER: The old alongside the new on the Anatolian Railway, ca. 1900. See pp. 139–160.

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By Donald Quataert
ASSISTANT PROFESSOR OF HISTORY
UNIVERSITY OF HOUSTON

Limited Revolution: The Impact of the Anatolian Railway on Turkish Transportation and the Provisioning of Istanbul, 1890-1908*

Developmental investment abroad was an integral part of the industrialized nations' foreign policies in the decades before World War I. A notable case was the German Empire's investment in the Anatolian Railway. Inspired by the astounding success of North American railroad development in settling vast untilled areas and creating great quantities of cheap food grains, the Germans built a railroad into the thinly populated central plain of Turkey. But the hoped-for revolution was limited by social and political factors that overrode the purely economic, as Professor Quataert demonstrates in a study with broad implications for present-day development programs in third-world countries.

By the late nineteenth century, development of the North American railroad system had revolutionized the logistics of food supply in the western world, and created great fortunes for those who had sponsored this innovation. When the government of the Ottoman Empire and a syndicate led by the Deutsche Bank signed an agreement in 1888 calling for construction of the Anatolian Railway, therefore, European investors looked forward to great profits. To provide for what would become the most ambitious German financial undertaking in the Empire, the concessionaires floated securities ultimately totalling 223 million francs, consisting of 57 million in stocks and 166 million in 5 per cent bearer bonds. The syndicate acquired a short line already built between Haydarpaşa

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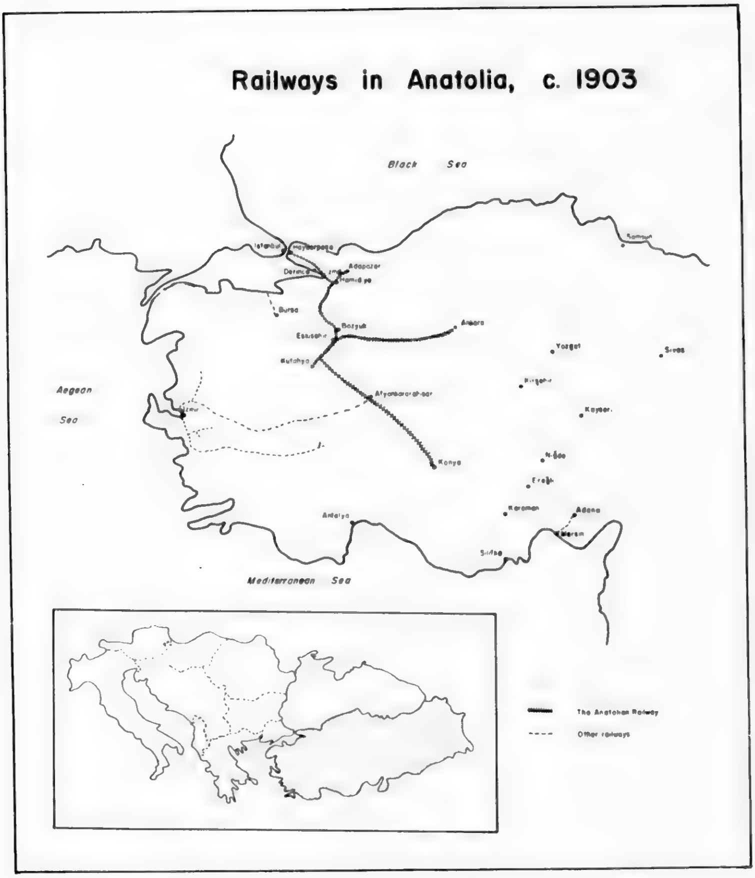
* I gratefully acknowledge grants from the Foreign Area Fellowship Program (1970-1971), the Joint Committee on the Near and Middle East of the American Council of Learned Societies, and the Social Science Research Council (1975); and the University of Houston (1976), in support of the research and writing of this article. For their cooperation and assistance, I am grateful to the staffs of the Deutsche Bank archives (Frankfurt/M), Zentrales Staatsarchiv (Potsdam) and the Başbakanlık Arşivı (Istanbul). Also, my sincere thanks to Ms. Marta Diaz, University of Houston, for her generous assistance in producing the map.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Aegean Sea
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Antalya
Mediterranean Sea
The Anatolian Railway
Other railways

(just across the Bosporus from Istanbul) and Izmit (see map), won the right to extend it to Ankara, and formed the Anatolian Railway Company (*Société du chemin de fer ottoman d'Anatolie*). Rapid completion of the Ankara section inspired the Ottoman government to grant the company the right to build a second, connecting line to the central plateau town of Konya.

Opening of the two sections stirred hopes that Turkey was on the brink of a transportation and provisioning revolution. Contemporaries expected that old trade routes and dependence on animal transport in the remote interior would vanish. By locating the railroad terminus at Haydarpaşa, within several thousand meters of the Ottoman capital, the promoters expected to increase the flow of Anatolian produce to Istanbul. The line, passing first through the relatively densely-populated Izmit-Adapazar coastal regions, seemed certain to give the capital a better supply of fruits and vegetables; but more important, and the object of the brightest hopes, was the ascent of the tracks onto the central plateau, a vast but under-cultivated cereal growing area punctuated with few urban centers. Here, a sparse population (about eleven persons per square kilometer) practiced a subsistence form of agriculture based on such primitive techniques as wooden plows, hand sowing and reaping. A railroad, it was believed, would transform the plateau region into the new granary of the imperial seat and the residents of Istanbul, accustomed to receiving their wheat and flour supplies from Russia, Rumania, Bulgaria, and European Turkey, soon would be consuming loaves made from Anatolian grains. In short, a new future for Ottoman development was foreseen with the construction of a modern transportation system.[1]

Railroads have played a variety of roles in the economic development of nations. Throughout Europe and North America they have been important components of broader economic, social, and cultural changes; in the New World they have been a chief means of fostering development; but in other places they have proved to be little more than alien transplants of limited purpose, bearing little relationship to the overall environment. American railroads may not have been an "indispensable" transport innovation, but they did accompany and significantly contribute to in-

[1] Studies of the Anatolian Railway usually have been subsumed under those of its extension, the Bagdad Railway, have a European perspective, and focus on political-diplomatic events. See, for example, Edward Mead Earle, *Turkey, the Great Powers and the Bagdad Railway* (New York, 1923); John B. Wolf, *The Diplomatic History of the Bagdad Railway* (Columbia, Missouri, 1936). For a recent, general survey based on such earlier studies, see Yakub N. Karkar, *Railway Development in the Ottoman Empire, 1856-1914* (New York, 1972). Financing of the line is treated in, for example, Charles Morawitz, *Les finances de la Turquie* (Paris, 1902), 586-594 and the sources cited in n. 4.

dustrial and agricultural growth. In Russia, by contrast, the state directed railroad building, not only to promote agricultural development but also to strengthen defense perimeters and stimulate industrialization; still, as in the United States, Russian lines helped to open and settle frontier regions. In some areas of tropical Africa and South America, European-financed lines penetrated short distances into the interior to bring out the sought-after export commodity but had little total impact upon the host country. The Ottoman Empire's experience with railroads reflects that state's less developed but nevertheless politically independent status, placing it somewhere between industrial West and exploited European imperial possessions. The Anatolian Railway corresponded more closely to the prevailing sociocultural milieu than, for example, lines in Africa or Egypt, but it demonstrated little of the relationship between rail-building and general economic development that characterizes the United States. The Ottoman regime, ruling one of the more powerful non-Western states of the nineteenth century, was able, as was its Russian counterpart, to control the location of its railroad. But, caught in the dilemma of underdevelopment, the Ottoman government envisioned the line as an instrument for overcoming politico-military, not economic, backwardness. The Anatolian Railway would facilitate troop mobilization and central control; economic growth, however desirable, remained a secondary consideration in the eyes of state planners.[2]

Foreign capital and engineers built the 1,000-kilometer line and, despite Anatolian Railway Company boasts that nine-tenths of the employees were Ottomans, Europeans in fact controlled the upper managerial levels. The construction materials, rolling stock, and coal also were imported. Building the line failed to stimulate much growth in the Ottoman industrial infrastructure and the economic impact of the railroad was restricted to the agricultural and mining sectors, but even these benefits were curtailed by the decision of the government that the railroad route be strategic and not economic in its orientation.

The location of the line ignored many fertile areas, such as Sivas

[2] Charles Issawi, "Asymmetrical Development and Transport in Egypt, 1800 1914," in W. R. Polk and R. L. Chambers, eds., *Beginnings of Modernization in the Middle East* (Chicago, 1968), 383–400; Robert William Fogel, *Railroads and American Economic Growth* (Baltimore, 1964); George Rogers Taylor and Irene D. Neu, *The American Railroad Network, 1861–1890* (Cambridge, Mass., 1956); John N. Westwood, *A History of Russian Railways* (London, 1964); and Alexander Gerschenkron, "Problems and Patterns of Russian Economic Development," in Cyril E. Black, ed., *The Transformation of Russian Society* (Cambridge, Mass., 1960), 42 72. For an Ottoman government view, see, for example, Baş Bakanlık Arşivı (Prime Minister's Archives, Istanbul, hereafter BBA) Yildiz 14 88/38 88 12.

in central Anatolia, which worried prospective European backers until the government adopted a subsidy arrangement called the kilometric guarantee system. The railway company was assured a certain amount of gross revenue per kilometer of track laid and in use. Government income sources, including the agricultural taxes of regions served by the railroad, were reserved for payment of the kilometric guarantees. Until 1911, when company proceeds began to exceed the guarantee levels, revenues from the areas most directly affected by the railroad were diverted from the Ottoman treasury and into the hands of the European shareholders. The kilometric guarantee system quieted investor fears but deprived the state of badly needed revenues.

While the government mortgaged future revenues for the line, certain benefits did accrue to the state and its subjects. Opening of the relatively inaccessible interior increased the acreage and value of cultivated land, agricultural production, prices, exports, and marketing ratios. The line probably generated a redistribution or absolute increase in population as economic opportunity and security of life improved. The economic relationship of Istanbul with Anatolia was strengthened by a transport system which, in a region with few navigable waterways and little potential for canalization, offered unprecedented opportunities for bulk transport. But what of the social savings to the Ottoman people? If a shift to domestic production of food, especially for the cities, occurred, significant savings would be produced; for on the eve of railroad construction, over 1,000,000 Turkish pounds (about 4,000,000 U.S. dollars) annually flowed outward in payment for the imported wheat and flour consumed in Istanbul.[3]

Early Efforts to Divert Traffic to the Railroad

Before construction of the Anatolian Railway, transport facilities and costs precluded a meaningful role for Anatolia in the provisioning of Istanbul. A few coastal areas near Samsun and Mersin, with

[3] The decline in rail transport rates noted later in this study and the eventual rise of railroad revenues above the kilometric guarantee amounts provide indirect evidence of rail-induced changes. The question of the line's economic impact requires further study; see, for example, Société du chemin de fer ottoman d'Anatolie, *Bericht des Verwaltungsrathes über das . . . Betriebsjahr (1. Januar bis 31. December . . .)* for the years 1889 1914 (hereafter *Annual Report(s)*. From 1901, the reports appear under the German company name: die Anatolische Eisenbahn-Gesellschaft. Great Britain, Accounts and Papers (hereafter A+P) 1892, 84, Fawcett at Ankara, 16 June 1892 and 1893 1894, 97, Wrench at Istanbul, 24 April 1893. Zentrales Staatsarchiv, Potsdam, Auswärtiges Amt (hereafter ZStA,AA) Nr. 53738, Bl. 75 and 8730, Bl. 30. Ahmet Cevat Eren, *Türkiye'de goc ve gocmen meseleleri Tanzimat devri, ilk kurulan Göçmen Komisyonu, cikarilan tüzükler* (Istanbul, 1966), is a comprehensive account of Balkan Muslim refugees moving to Anatolia in the nineteenth and early twentieth centuries. Many were settled by the government along the railroad.

cheap bulk sea transport, were able to supply the city with limited quantities of flour and wheat. Railroads were found in a few areas, most notably on the Aegean littoral from which they extended inland and tapped the fertile valleys of the Menderes and Gediz rivers; but these lines, were directed not toward Istanbul but toward the great Aegean port of Izmir.[4]

Caravan routes and wagon roads dominated the interior, and despite government efforts to construct better highways, roads often went unrepaired and became unusable after several years. Thus, commerce tended to follow narrow trails along which animal caravans made their way. Camels, the major beast of burden for longer hauls, typically carried between 500 and 550 pounds and could cover 15 to 20 miles a day.[5]

The high cost of animal transport raised prices intolerably. Even where comparatively good facilities existed, shipping costs multiplied the final selling price of grain. For example, the Erzurum region in eastern Turkey, a fertile grain-growing basin, was connected to the Black Sea port of Trabzon by perhaps the best and most heavily-traveled trade route in late-nineteenth-century Anatolia. In 1886, wheat transported over the 314 km. tripled in price as it reached the coast. Similarly, wheat shipped from Ankara, the first goal of the Anatolian Railway, tripled in price during the 361 km. caravan journey to Istanbul, while barley prices increased more than three and a half times.[6]

When the Anatolian Railway initiated service to Ankara in late 1892 and Konya in mid-summer 1895, caravans plying parallel routes reduced their charges. Caravan fees for the Ankara-Izmit journey were more than halved, from 1.44 to 0.65 piasters a ton-kilometer (the equivalent of about 4.5 U.S. cents a ton-mile) between 1889 and 1896, while along the Konya section, rates for the Konya-Izmit

[4] Other lines included, in 1914, the 67 km. Adana-Mersin line in southeast Turkey, the 42 km. Bursa-Mudanya line in the northwest and the Bagdad Railway, extending some 400 km. from Konya to the Syrian border. In 1914, the Anatolian Railway comprised 36 per cent of all track in Turkey. See M. Hecker, "Die Eisenbahnen der asiatischen Türkei," *Archiv für Eisenbahnwesen*, 1914, pp. 744 800, 1057 1087, 1283 1321, and 1539 1584 for an excellent, technical summary of Ottoman railways.

[5] Edmund Naumann, *Vom Goldnen Horn zu den Quellen des Euphrat* (Munich, 1893), 421 for contemporary discussion of the controversy over camels' carrying capabilities. For discussion of the camel's superiority over wagon transport in the Middle East see R. W. Bulliet, "The Camel and the Wheel," in *Annales* staff, ed., *Social Historians in Contemporary France* (New York, 1972), 46 58 and a book of the same title by Bulliet, (Cambridge, Mass., 1975).

[6] Derived from Great Britain, Foreign Office (hereafter FO) 195/1584, Devey at Erzurum, July 4, 1887; A+P 1890–1891, 88, Hampson at Erzurum, July 16, 1891; Vital Cuinet, *La Turquie d'Asie: géographic administrative, statistique descriptive et raisonnée de chaque province de l'Asie Mineure*, 1 (Paris, 1892), 635-638; and Naumann, *Vom Goldnen Horn*, 420. G. Stratil-Sauer, "Cereal Production in Turkey," *Economic Geography*, 9 (October, 1933), 326, notes that in *c.* 1933, grain shipped from Erzurum to Trabzon accrued transport costs greater than its original selling price in the interior.

haul fell a third, from 1.47 to 1.01 piasters a ton-kilometer or 7.0 U.S. cents a ton-mile.[7]

The railway company underestimated the flexibility of caravans. At first, it published a simple, three-category schedule of freight charges with a basic grain carrying rate of 0.55 piasters a ton-kilometer or 3.8 U.S. cents a ton-mile. This made freight charges for a ton of grain shipped the 486 km. rail route from Ankara to Izmit 12 per cent more than if shipped the shorter 361 km. caravan route (assuming the lowest caravan charge was applied). Such a state of affairs persisted only briefly. The company quickly undercut its camel competitors and supplemented the posted three-tier schedule with a welter of special rates. The Anatolian Railway Company, following long-established precedents in railroad tariffs, favored long haul and bulk shipments. Already by 1892, freight charges for through shipments from Ankara to Haydarpaşa had fallen to about 0.26 piasters a ton-kilometer; rail rates on this section of the line were now 60 per cent below the lowest camel carriage rate in Anatolia. In the following decade, through rates on the Ankara section declined further, to 0.18 piasters a ton-kilometer. Soon after inauguration of service on the Konya section of the railroad, wheat and barley rates were lowered, to 0.18 and 0.21 piasters respectively.[8] To large shippers, the Konya and Ankara sections offered special discounts, from 43 to 50 per cent, for filling an entire railroad car. Additional discounts were given for utilizing 1,000 cars (presumably in a season) and, in one case, 100 cars.[9] These reductions and special rates transformed the caravans operating along parallel routes from primary carriers to a feeder system for the railroad, bringing grains to the stations rather than competing for their carriage to seaports served by the line. Whatever grain trade remained to the caravans along parallel routes probably derived from merchants dealing in quantities below the discount minimums or shipping to another inland station.

The two lines worked to attract that commerce of the interior which had been oriented toward exit points other than the rail

[7] *Annual Report*, 1892; Naumann, *Vom Goldnen Horn*, 421 and 426; ZStA,AA, Nr. 15071, Bl. 50 55; and, Noel Verney and George Dambmann, *Les puissances étrangères dans le Levant en Syrie et en Palestine* (Paris, Lyon, 1900), 226. The Ankara-Izmit rate of 0.65 piasters tkm. is the lowest caravan rate found by this writer.

[8] *Annual Reports*, 1889–1898; FO 195/1934, Richards at Ankara, October 24, 1896; A+P 1907, 93, Waugh quoting Wylie at Konya, n. d. and 1894, 88, Cumberbatch at Ankara, April 20, 1894; A. Gabriel, *Les Dessous de l'administration des chemins des fer ottomans d'Anatolie et de Bagdad* (Istanbul, 1911), 80.

[9] Tarif IX of the Cahier des Charges of the original concession for the Ankara line; also, clipping from the *Berliner Tageblatt*, February 1, 1897, enclosed with the *Annual Reports* in the Deutsche Bank archive. By comparison, rates on "granger railroads" in the United States averaged about 1.2 cents a ton-mile for *all* classes of freight in these years; Interstate Commerce Commission, *Statutes of the Railways of the U.S.* (annual 1887–   ).

centers of Haydarpaşa, Izmit, and Derince on the coast. In the important commercial centers of east and south-central Turkey, such as Kayseri, Yozgat, Ereğli, and Karaman, the company established thirteen agencies to persuade local merchants to abandon the caravan and wagon routes to the Black and Mediterranean seas. Persuasion took the form of discounts. The local merchant would pay a fee, in one case 3.5 Turkish pounds, and obtain a certificate from the railroad agent in the town. Having arrived at a station, the certificate holder received discounts for rail shipment. The discount rate, commonly 20–25 per cent, varied in proportion to the intensity of competition with alternate modes of transport and the commercial importance of the town. At the vital trade center of Kayseri, merchants willing to ship goods to the Konya and Ankara sections obtained 40 and 60 per cent discounts.[10]

These incentives, however, were only partially successful. On the Ankara section, while the railroad attracted much of the trade in high-value, low-bulk items such as opium and mohair, grain continued to exit along the traditional routes. For example, two-thirds of the commerce in heavy goods from Yozgat, five days from both Ankara and the Black Sea port of Samsun, continued to be directed towards the sea. At Kirsehir, although "all the mohair and light wares" were diverted to the railroad, camels still carried "most of the grain" to Mersin. At Kayseri, the Mersin route retained 60 to 70 per cent of the total trade.[11] The lack of feeder rail lines clearly hurt the railway company's efforts; the agencies handled less than 5 per cent of total annual rail tonnage.[12] Aggregate caravan and rail charges in the above cases exceeded the cost of shipping goods directly by caravan to water transport and the line failed to capture a significant proportion of the grain exports from more distant production centers.

The successes of the Ankara and Konya sections in dominating even local transport varied. The better record of the Ankara section derived from the relative absence of alternative markets to Istanbul and the existence of only animal transport competition. By contrast, the Istanbul market for many shippers on the Konya section was new, one to be added to existing opportunities on the Aegean

[10] Clipping from the London *Times*, September 9, 1905, in ZStA,AA, Nr. 6667, Bl. 15–15r; *Annual Reports*, 1895–1897; and *Le journal de la chambre de commerce de Constantinople* (hereafter *JCCC*), September 9, 1893, p. 421.

[11] *Annual Reports*, 1895–1897; *Times* clipping cited in n. 10. This impression is corroborated by a study of grain exports from the Anatolian ports of Samsun, Trabzon, and Mersin, which fail to decline after construction of the railroad. For a contrary statement, that most Kayseri exports were going via Ankara, see *Revue commerciale du Levant, bulletin mensuel de la chambre de commerce française de Constantinople* (hereafter *Revue*), Nr. 204, March 20, 1904, pp. 316–319.

[12] *Annual Reports*, 1895–1897.

and Mediterranean coasts. For the Aegean trade, the Konya line battled not only caravans but also French and British-owned railroads coming from the port of Izmir. The ensuing rate wars of the late 1890s and early twentieth century appear to have ended badly for the German-built Anatolian Railway. For example, the lower rates of the Izmir-Kassaba line attracted two-thirds of the trade from Afyonkarahisar, a city on the Anatolian Railway but also, after 1897, joined to Izmir by rail.[13] The lower volume of traffic, relative to the Ankara section, on the Konya line derived not only from differences in regional productivity but also from the presence of Izmir-based railroad competitors.

Caravan traffic directed towards the Mediterranean posed problems for the Konya section similar to those that had frustrated the Ankara line in competing for the commerce of the east-central towns of Kayseri and Kirsehir. On the one hand, the prevailing 0.18 piaster rail rate for wheat shipped from Konya to Haydarpasa appeared to offer an overwhelming advantage over the 0.70–1.00 piaster rate for caravans to the ports of Mersin, Silifke and Antalya. But much of the advantage was merely apparent: the distance from Konya to Haydarpaşa was approximately three times greater than to the nearest Mediterranean port. Traditional trading patterns remained strong. Perhaps fearful of competing in the Istanbul market, disenchanted with Anatolian Railway Company rates, and attracted by the higher produce prices often prevailing in the south, some merchants in the city of Konya refused to abandon the caravans. Further away from the Konya line, where similar motives may have been in effect, the combined caravan-to-Konya plus rail-to-Istanbul costs proved prohibitive. Agencies and their discounts were of little help: towns such as Karaman, Niğde, and Ereğli studiously ignored the announced benefits of rail shipment and retained trade links with the Mediterranean ports.[14] Early-twentieth-century supporters of the Anatolian Railway, while expressing hope that the Bagdad line, then under construction east-southeast from Konya, would alter the situation, admitted that the southern two-thirds of Konya province remained tied to the Mediterranean trade. In addition, they conceded that the northwest portion of the province was in the orbit of the two Izmir lines.[15]

With its entry into the Turkish interior, the Anatolian Railway

[13] ZStA,AA, Nr. 15070, Bl. 29 30; clipping from the London *Times*, October 3, 1905, in ZStA,AA, Nr. 6667, Bl. 117-118; *Revue* Nr. 226, January 31, 1906, pp. 105–106.

[14] ZStA,AA, Nr. 15071, Bl. 50-55 and Nr. 15070, Bl. 26 26r.

[15] Hecker, "Die Eisenbahnen," 1539; ZStA,AA, Nr. 15070, Bl. 26 26r. For similar statements from less sympathetic observers see: *Revue* Nr. 191, February 28, 1903, pp. 287-294 and 333–336; A+P 1904, 101A, Hampson at Konya, n. d.

stimulated a sharp reduction in prevailing transport rates, especially in nearby regions, but exercised a relatively limited impact on overall trade patterns. By offering cheaper rates on the line itself, the railroad forced caravans operating in adjacent areas (and perhaps more distant ones as well) to lower their transport charges. But, with only two short branch lines, to the towns of Adapazar and Kütahya (9 and 10 km. respectively) the railroad was unable to affect more distant areas. It did not serve as a magnet for most Anatolian commerce: grain transported by rail probably represented new production rather than redirected shipments. And while the line destroyed caravan competition on parallel routes, it failed to alter substantially existing caravan traffic to the seas in the north and south, and it unsuccessfully fought the Izmir lines for the trade oriented towards the Aegean coast.

Thus, the orbit of the Anatolian Railway was restricted to perhaps 125,000 sq. km. with an estimated population of 2,000,000. Included were the district of Izmit, the province of Ankara, and varying proportions of the provinces of Konya, Bursa, Sivas, and Kastamonu.[16] In these predominantly agrarian regions, most cultivated land was devoted to wheat and barley. Railroad shipments reflected the predominance of such activities and the relative poverty of the internal market. Exports comprised 80 to 85 per cent of all traffic and primarily consisted of agricultural products and other raw materials. Of crucial importance were grain shipments. On the Ankara and Konya sections, grain transport at worst (after two consecutive poor harvests in 1898 and 1899) accounted for 30 per cent of total rail tonnage. More typically, grains totalled between 50 and 75 per cent of all rail freight.[17]

On the completed Ankara section, grain shipments at first averaged 34,000 tons a year and, in the following decade and a half, rose to 187,000 tons a year. Less dramatic increases occurred on the Konya section where early annual totals of 67,000 tons increased to only 81,000 tons at the period's close. In good years, for example in 1902, the two sections transported 400,000 tons of grain.[18] Along the line were markedly different zones of subsistence and export agriculture. Certain sections of the line, such as the Bozyuk-Haydarpasa stretch, produced barely enough to meet local needs: a handful of stations handled the traffic. On the Ankara section, the

[16] ZStA,AA, Nr. 11796, Bl. 18-18r; Nr. 57336, Bl. 31; and Nr. 8730, Bl. 29. The population estimate is for 1903.

[17] *Ibid.*; *Annual Reports*, 1889-1914; Hecker, "Die Eisenbahnen" 1540-1541.

[18] *Annual Reports*, 1889-1914; for a convenient table giving merchandise and grain shipments on the two sections, 1889-1907, see E. Pech, *Manuel des sociétés anonymes fonctionnant en Turquie*, 4th ed. (Istanbul, 1909), 68.

Hamidiye-Adapazar spur and the stations at Eskişehir and Ankara together shipped 60 per cent of all merchandise while the Ankara station alone exported over 40 per cent. This last station forwarded 40 per cent of the wheat and 20 per cent of the barley carried by the railroad. On the Konya line, the two stations at Kütahya and Konya were the primary shipping points and handled between 45 and 66 per cent of total tonnage.[19] Typically, over 98 per cent of all grains shipped on the two sections was not consumed in the railroad zone but forwarded to the ports of Haydarpaşa, Izmit and Derince.

The majority, perhaps three-quarters, of rail grains left the Ottoman Empire, and most of this was probably barley. Although it was used in some Anatolian regions for bread, most residents considered it animal fodder. Derince handled most barley exports, helping satisfy beer drinkers in England and, after 1900, in Germany. Haydarpasa received about two-thirds of rail-shipped wheat while the other two ports handled and exported approximately equal shares of the balance. About one-quarter of the wheat received at Haydarpasa was sent to Istanbul but then exported. This wheat was probably of the better grades: Italy, France, and the Aegean islands purchased the harder wheats while England, the Low Countries and Germany bought the softer varieties.[20]

Rail-transported cereals not exported consisted mainly of wheat and were consumed by two major groups in the empire. The Ottoman Ministry of War provided an important and often-overlooked indigenous market. Early in the railroad era, standing orders were issued to the quartermasters to purchase Anatolian grains only, regardless of price. In 1896, for example, 16,400 tons of wheat (11 per cent of all rail-shipped grains) were carried by the railroad company for military consumption.[21] Istanbul, the second major in-

[19] *Annual Reports*, 1890–1903. There was some tendency for equalization of shipping among the Eskişehir-Konya section stations but Kütahya occasionally shipped nearly one-half of all merchandise. Availability of storage and handling facilities, as well as productivity, helped to determine the volume of goods shipped from a station. For example, the superior facilities at Eskişehir attracted commerce from areas up to twenty hours' distant. See clipping from the London *Times*, December 28, 1904, in ZStA,AA, Nr. 11796, Bl. 104.

[20] ZStA,AA, Nr. 8730, Bl. 29, 38–42 and Nr. 15071, Bl. 20r–23; *JCCC*, October 23, 1897. *Annual Reports* and other sources often listed only *Getreide* without further designation in the tables of commodities shipped. Wheat, barley and other grains were listed separately for five years, 1896, 1897, and 1902–1904. During these years, wheat averaged 60 per cent of all grain shipped, barley 37 per cent, and maize, oats, and rye the balance. See *Annual Reports*, 1896–1897; ZStA,AA, Nr. 53738, Bl. 168–168r and Nr. 53739, Bl. 112.

[21] Altogether, the military purchased 13 per cent of all rail-shipped grains in 1896. See ZStA,AA, Nr. 8730, Bl. 30 and 38–42; Nr. 11655, Bl. 146–148; and *Annual Report*, 1896, which notes that 23,250 tons of *Getreide* were shipped for the military. ZStA,AA, Nr. 53736, Bl. 30 suggests that, in 1894, 12,000 tons of cereals were procured in Anatolia for the military.

ternal market, consumed one-eighth to one-quarter of all rail-shipped grains.

Wheat Provisioning of Istanbul

In the late nineteenth century, a resident of Istanbul ate wheat rather than barley and, according to contemporary observers, daily consumed 0.45 to 0.69 kilograms, or about a pound, of flour.[22] For centuries, the Danubian plain "the father-provider of Constantinople", as well as the Crimea, Thrace, Egypt, and the southern Black Sea coast had been, as imperial possessions, suppliers of grain to Istanbul. To assure cheap bread for the city and thereby promote quietude, the government erected a formidable control apparatus, including placement of trusted personnel on provincial grain ships bound for the capital. A "most excellent white bread," noted by the seventeenth-century Turkish traveller Evliya Çelebi, and its inferior successors came to the city via water transport, often in the form of provincial tribute under conditions of monopolistic state control. Imperial conquest had guaranteed bread for the city.[23]

Through the misfortunes of war, first the Crimea (1783), then the future Rumanian and Bulgarian states broke away, either gaining independence or being absorbed into Czarist Russia.[24] In addition, the Ottoman Empire by the mid-nineteenth century had signed away or lost its right to maintain monopolies, prohibit grain exports, and control Black Sea shipping. The door to free trade had been opened irrevocably by the British in 1838 and the former provinces now participated in world trade, sending their grain to the most advantageous market. While the political and economic scene had altered considerably, the previous, sea-borne provisioning pattern of Istanbul had remained intact. Complete statistics are lacking, but we know that in the middle 1870s and early 1880s, the lost provinces supplied most of the wheat and nearly all the flour consumed in the city. Thrace frequently provided about one-quarter of

[22] A methodological appendix discussing the problems of determining actual bread consumption in Istanbul and the procedures employed in this article is available from the author.

[23] For the provisioning of Istanbul in the seventeenth century, when Anatolian areas with easy sea access played a more important role than in the subsequent century, see Robert Mantran, *Istanbul dans la seconde moitié du XVIIe siècle* (Paris, 1962), esp. 187-194; for the eighteenth century, see Lütfi Güçer, "XVIII yüzyil ortalarında Itanbul'un iaşesi lüzumlu hububatın temini meselesi," *Istanbul Üniversitesi, Iktisat Fakültesi Mecmuası*, XI, 1-4 (1949-1950), 397-416; and Marie Mathilde Alexandrescu-Dersca, "Contribution à l'Étude de l'approvisionnement en blé de Constantinople au XVIII e siècle," *Studia et Acta Orientalia* I, 1957, pp. 13-37.

[24] Egypt gained autonomy in 1768, lost it later in the century, and then, with the rise of Mehmet Ali in the early nineteenth century, embarked on a separate course. Thrace remained part of the empire but under constant threat of European attack.

the wheat and the Turkish coastal areas occasionally contributed up to a fifth. Market summaries of wheat and flour received in Istanbul from 1885 to 1888 fail to mention wheat and flour supplies from the Anatolian interior and only rarely indicate the appearance of shipments from the southern Black Sea coast. During 1889, the first year for which market summaries provide more detailed data, all areas of Anatolia contributed 2 per cent of the wheat received.[25] As the tracks of the Anatolian Railway were being laid, Istanbul depended on sometimes-hostile states or precariously-held possessions for its bread needs.[26]

At first, the railroad made little impact on the Istanbul bread market. Receipt of rail-area wheat was not mentioned until April 1893 and flour not until January 1894. Through 1896, when it provided one-quarter of wheat receipts, the line furnished only token amounts to the Istanbul market. Thereafter, the Anatolian Railway became a regular supplier of the city. During four years – 1897, 1901, 1902, and 1905 – the railroad and other Anatolian areas furnished over 90 per cent of all wheat received. But during years such as 1899, 1906, and 1908, the railroad share fell below one-third, to as little as 12 per cent.[27]

Factors such as price, quality, transport costs, climate, and political and world market conditions influenced the ability of rail-shipped wheat to enter the Istanbul market. For example, poor or bad harvests were recorded in six years: in 1892, 1894, 1898, 1899, 1907, and 1908. While the state prohibited grain exports or specifically directed rail provinces to forward surpluses to Istanbul, the crop failures were reflected both in diminished rail shipments and the lower contribution of rail-transported grains to total wheat receipts. Political crises, for their part, could exercise a positive effect. In December 1896, as fighting on Ottoman Crete intensified and war with Greece became more likely, the Istanbul regime forbade the export of grains, and the railway company sent special trains

[25] United States, House of Representatives, Consular Reports of the United States, 1876, pp. 890–894; *ibid.*, Bureau of Foreign and Domestic Commerce, Monthly Consular Reports, 1881, pp. 306–307; market summaries in the Istanbul newspapers *Levant Herald*, 1887–1889 and *JCCC*, 1885–1886. The market summaries from 1890 (*Levant Herald*) and the years 1892–1908 (*JCCC*) also were utilized in this study. The summaries, which note the wheat and flour quantities received and sold in Istanbul, were totalled to yield annual receipts of each commodity from the various suppliers. The tables derived from these summaries form the statistical basis for the remainder of the article, and they can be obtained from the author.

[26] The pre-railroad contribution of Anatolia to Istanbul provisioning was held back by Ottoman tariff policy. Until 1893, wheat and, until 1894, flour, shipped by water within the empire paid 8 per cent internal customs duties. Turkey, Ministry of Justice, *Düstur*, birinci tertib, VI (Ankara, 1939), 1337–1338 and 1430–1433. Also, *JCCC*, March 11, 1893, p. 108; August 26, 1893, p. 403; and November 24, 1894.

[27] Market summaries in *Levant Herald*, 1890, and *JCCC*, 1892–1908.

to bring the Ankara wheat crop to Istanbul.[28] During the war year of 1897, Anatolia furnished 92 per cent of all Istanbul wheat.

Rumania and Bulgaria, however, continued to loom large as wheat suppliers, quickly filling the gap during years of poor Anatolian harvests. In addition, when the two Balkan states enjoyed bumper crops or lacked more attractive alternative markets, they made important contributions to the wheat supply of Istanbul, notwithstanding the availability of Anatolian grain. For example, in 1900, the two states furnished 44 per cent, and in 1906 Rumania alone provided 66 per cent, of the wheat.

While the size of Anatolian and Balkan harvests helped to determine the origins of Istanbul wheat, quality and price factors played their role as well. Rail-shipped wheat equal in quality to foreign grades frequently did not enjoy a price advantage.[29] Poor harvests naturally pushed Anatolian grain prices upwards. But also, as European and Ottoman merchants flocked to the new grain sources, prices in the interior jumped about 100 per cent in six years. These early price rises for rail-area wheat perversely occurred in the face of declining Istanbul and world market prices for wheat, temporarily retarding their export and consumption in the capital. Thereafter, grain prices in Anatolia moved in concert with Istanbul prices, which were already closely linked to those in London. The virtual absence of rail grains in Istanbul until 1896, while it derives partly from the novelty of the new marketing system, also coincides neatly with the trough of the 1873–1896 price depression. With the subsequent rise in prices and reduction in rail transport charges, rail shipments of wheat to the capital increased.

It is not surprising that significant amounts of Anatolian wheat entered the Istanbul market around 1896, at the beginning of an upward movement in wheat prices. Production and transport costs in Anatolia were high. Although, with government encouragement, modern agricultural machinery was coming into increasing use, most cultivators produced grain with primitive implements according to age-old practices. Anatolian grain exports enjoyed neither the technological advantages of the American farms nor the monopolistic wheat export policies of the Russian government. Rather, production costs were raised by the apparent but as yet undocu-

[28] Hariciye Arşivi (Foreign Office archives, Istanbul), Idare Tasnifi, Dosya 191 and 296; *JCCC*, December 19, 1896, p. 501.

[29] Price data for both rail-area and foreign wheats was available from the *JCCC* market summaries for eleven years: 1893, 1896, 1898–1903, and 1906–1908. During six years – 1893, 1898, 1899, and 1906–1908 – the price of comparative grades of rail wheat exceeded that of foreign. As will be demonstrated shortly, however, most Anatolian wheats entering the Istanbul market probably were not comparable but inferior in quality to imported wheat.

mented increase in farm laborers' wages resulting from sparse populations and the spread of commercial agriculture offering better alternative wage opportunities in cash crop sectors such as cotton. Some larger landholders sought to escape these labor costs by introducing modern equipment.[30]

Already bearing high production costs, goods transported to the Istanbul market encountered more than rail charges. In any calculation of total shipping costs, wagon or camel haulage to the station, as well as storage and handling charges prior to rail shipment naturally must be included. Further fees were incurred down the line on the quay at Haydarpasa for offloading and temporary storage, then again for crossing the water to Istanbul. In 1904, railroad loading, offloading, quay fees, the water journey, and actual rail haulage (but not including any pre-haulage transport or handling fees in the interior), represented 22 per cent of the market price of Anatolian wheat in Istanbul.[31]

Contemporaries, especially merchants, judged these rates and fees to be high. While such accusations are not unique to the Anatolian Railway Company and form part of a contemporary worldwide cacophony against railroad firms, they appear in this case to be justified. Turkish underdevelopment exercised a vital influence on railroad freight rates. The populace remained too poor to provide a broad market for imported goods and the basically unidirectional, coastward character of freight traffic in effect nearly doubled transport rates. Also, infertile stretches (especially on the Konya section) through which the line passed, railway company control of most export facilities, and the kilometric guarantee system all may have served to restrain downward movements in shipping rates.[32] Anatolian Railway Company charges appear high when compared with rail rates in the two major grain-producing states, the United

[30] ZStA,AA, Nr. 8730, Bl. 46, for an excellent 1902 analysis of factors pushing up labor costs; also, *ibid.*, Nr. 6725, Bl. 139, for a 1912 report. To stimulate wider use of modern agricultural equipment, the state offered import duty exemptions and sent agronomists to demonstrate machinery in the railroad areas. See, for example, BBA: Orman 1318, Sevval Nr. 5; Orman 1319, Zilkade Nr. 1; Bab-ı Âli Evrak Odası (hereafter BEO) 151706, 159642, 178438 and 179836.

[31] Haulage charges were 103 piasters and handling fees 63 piasters; see ZStA,AA, Nr. 15071, Bl. 54, and Nr. 15070, Bl. 126–126r. Also, Gabriel, *Les Dessous*, 80. These rates marked a sharp decrease from 1893, when haulage and handling charges of 208 piasters comprised 32 per cent of the market price of top-grade Ankara wheat.

For comparative purposes: in the United States, the very low charges for the New York-Chicago haul accounted for about 9 per cent of the U.S. selling price of wheat. See *JCCC*, February 29, 1908, and compare with, for example, L. Girard, "Transport," in *The Cambridge Economic History of Europe*, VI, Part I, *The Industrial Revolutions and After* (Cambridge, 1966), 265.

[32] Hecker, "Die Eisenbahnen" 1539–1542; A+P 1904, 101A, Waugh at Istanbul, March 21, 1904; and FO 195/1977, Shipley at Ankara, December 6, 1897, quoting the railway report of Major Law. The relationship between the Anatolian Railway Company as a foreign-owned enterprise and the level of its shipping and storage charges is being investigated by the present writer.

States and Russia. Yet a comparison with transport rates in Bulgaria and Rumania, the two big competitors in the Istanbul market, is perhaps more significant. In those two countries, the bulk of grain exports were carried down the Danube River at rates as low as 4 per cent of the ton-kilometer rates on the Anatolian Railway.[33]

Following increases in world wheat prices after 1896, rail-shipped wheat assumed a commanding but not assured position in the Istanbul market. The inability of the railroad to bring the capital irrevocably into its orbit stemmed partially from the world market conditions under which Anatolian wheat competed for the Istanbul trade. Nearby major grain-producing states enjoying direct water access to the city remained important elements in its wheat provisioning. Grain transport from the Anatolian interior to Istanbul, by contrast, required breaking the rail journey at Haydarpasa for water carriage to the millers. The relative cost of delivered Anatolian wheat, which determined its competiveness, also derived from the level of Turkish development. The foreign-owned line with monopolistic control over parts of the transportation chain, the backwardness of Anatolian agriculture, the lack of an internal market, and the nature of rail traffic exercised a certain, often decisive, influence. And finally, the government decision to select a railroad route according to strategic criteria, while itself deriving from Ottoman backwardness, functioned to weaken further the impact of the line as an economic force.

Anatolian Flour on the Istanbul Market

As seen, rail-shipped Anatolian wheat assumed a position of major importance in the post-1896 Istanbul market. The ingredients of Istanbul bread, however, arrived in two forms: both as wheat later

[33] A railway company director, von Gwinner, declared the Anatolian Railway rates to be the lowest in Europe, overlooking the fact that in many countries, e.g., Germany, railroads were instruments of national economic policy and their rates often a product of internal political compromise. In Prussia, grain freight rates between 1891 and 1893 were 0.15 piasters tkm. for the first 301 km. and 0.10 piasters thereafter. But in 1894, a higher, flat rate of 0.22 piasters tkm. was introduced as part of the post-Bismarckian realignment in imperial Germany. In the U.S., grain shippers paid, around 1897, as little as the equivalent of 0.06 piasters a ton-kilometer (about 0.4 cents a ton-mile) for the Chicago-New York run and 0.13 piasters (0.9 cents) elsewhere in the country, and these rates were subject to widespread rebating. In Russia, about 1888, wheat shippers paid the equivalent of 0.26 piasters up to 386 km. but 0.08 piasters a ton-kilometer for the next 1,336 km. These rates were reduced substantially in 1893. In France, on the Railway du Nord, rates, for a run equivalent to the Ankara-Haydarpaşa trip, averaged the equivalent of 0.07 piasters tkm. In the Danubian areas, the river continued to carry over 70 per cent of all exports. Grain shipments down the river cost 0.01-0.03 piasters a ton-kilometer. These rates, for example, were 11–33 per cent of the Chicago-New York rail rates. U.S. rates quoted were derived from Fogel, *Railroads*, 4, 24; Taylor, *The American Railroad Network*, 2; and Hugo Richard Meyer, *Government Regulation of Railway Rates* (New York, 1905), esp. 4–10, 144, 164–165. For the actual, over-all average rate on "granger" railroads, see note 9.

ground by millers but also as flour which had been milled elsewhere.[34] The city's total breadstuff receipts can be determined by reducing the wheat arrivals to flour equivalents (flour extracted from wheat) and adding these equivalents to arrivals of flour. The results show that between 1889 and 1908, one- to two-thirds of breadstuff receipts usually reached the city as flour. Flour from the railroad regions, however, normally comprised only 1 to 3 per cent of these flour receipts, a negligible contribution that seriously diminished the line's overall impact on the supply of breadstuffs. In 1902, for example, the rail share of wheat receipts peaked at 94 per cent while flour shipments were a near-record 4 per cent; when the volume of these arrivals is compared with receipts of all breadstuffs, the railroad contribution falls to 67 per cent.[35]

Problems of quality retarded acceptance of Anatolian wheat by millers and consumers. Insufficient care in the field, permitting a variety of grains to grow together, showed itself in the gathered harvest. Much Anatolian grain, some from tax farmers' sales, was *mêlée*, a mixture of wheat with rye and other impurities, a problem that was exacerbated by railway company policy. Until 1902, the firm imposed, as did its contemporaries in Europe and the United States, a higher shipping rate on rye than on wheat. In Anatolia, some unscrupulous shippers mixed rye with wheat, and although they personally benefitted from the higher selling price of the latter, their actions deterred acceptance of the grain by consumers and, therefore, by millers.[36]

Anatolian flour, milled in the interior and shipped by rail, also encountered formidable competition in Istanbul, from the higher-quality production of the Balkan and south Russian mills and from low-quality but commensurately priced Marseilles flour. The Istanbul price of rail-transported Anatolian flour was far below that of all foreign flours except that from Marseilles and, during its occasional forays into the Istanbul market, from the United States.[37]

[34] ZStA,AA, Nr. 53736, Bl. 36–38, contains a good summary of flour-milling facilities in Istanbul. A report, drawn from a common source, was published in *JCCC*, July 20, 1895, p. 338, and also includes a survey of the various flours consumed in the city.

[35] Derived from market summaries in *Levant Herald*, 1889–1890 and *JCCC*, 1892–1908. Supporting tables are available from the author. During 12 years of the period under study, the railroad regions supplied 1 per cent or less of total flour receipts.

[36] *Düstur*, birinci tertib, VII (Ankara, 1941), 362–364, for an 1899 imperial decree exempting rye from internal customs duties in an effort to deter shippers from mixing rye with wheat. *JCCC*, June 14, 1902, p. 185, notes the railway company abolishing the discriminatory rate against rye. See, ZStA,AA, Nr. 53736, Bl. 30 and *JCCC*, March 14, 1896 for examples of miller and consumer attitudes towards the mixed grain. The continued presence of *mêlée* also suggests that cultivators were not committed sufficiently to the cash economy to take the steps necessary for the removal of rye from the wheat fields.

[37] Market summaries in *JCCC*, 1892–1908. Marseilles provided over one-half of flour receipts in two years, 1900 and 1908, and more than one-quarter of the annual receipts

But rail-shipped Anatolian flour contributed minimally to annual flour receipts. More substantial use was inhibited by the presence of impurities that rendered Istanbul milling of the wheat problematic and less acceptable to consumers.

The crucial problem, however, was the lack of Anatolian mills capable of producing desirable flour in exportable quantities. Steam-powered mills of either the traditional millstone or roller type were a rarity in the interior. To found industrial enterprises, entrepreneurs were required to obtain official consent, and Ottoman records indicate that, during the period 1890–1908, only five such applications were filed for the Anatolian Railway districts. On the Ankara section, permissions were granted for two steam mills in the Adapazar area and two near the Ankara railroad station (bringing the total number of modern mills in the latter town to three). The only steam mill along the Konya section was installed by a high-ranking Ottoman official who gained consent in 1907 for its construction near the Konya station. Modern mills were in operation elsewhere but were few in number and satisfied primarily local needs.[38] The maximum recorded flour shipments by rail, to unspecified destinations, reached only 18,000 tons in 1913. While the six-fold increase in two decades is impressive relatively, the peak volume of rail-transported flour represented a minor factor in satisfying the appetite of Istanbul.[39]

The government encouraged the foundation of modern mills in the provinces with tax and import duty exemptions but did not execute a consistent policy towards increasing the use of Anatolian wheat and flour in Istanbul. Paternalistic notions of government collided with official programs of agricultural development and with the advantages of self-sufficiency in food. The state, desiring to provide the populace with inexpensive bread, refused to act in 1894 when Istanbul millers, fearing competition from foreign flours, demanded imposition of a 25 per cent import duty. Similarly, it rejected the recommendation of its own agronomists for a tariff on imported grains as a means of stimulating indigenous production. In any event, international tariff agreements which prohibited unilateral alteration of duties, and European interest in preserving markets in the Ottoman Empire, would have precluded actual im-

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in 1899 and 1907. Rumania, Bulgaria and Russia generally furnished between 67 and 97 per cent of the flour receipts.

[38] BBA: BEO 86748, 112394, 202678; Nafia 1316, Safer Nr. 5; Nafia 1324, Zilkade Nr. 1 and Zilhicce Nr. 2. ZStA,AA, Nr. 15071, Bl. 22–27, which notes that the Ankara mill was run with imported coal. *Revue* Nr. 227, February 28, 1906, p. 139.

[39] Annual Reports, 1889–1914. In the 1890s, flour shpiments averaged 2,500 tons, climbed to an annual average 8,400 tons between 1900 and 1910 and, in the final prewar years, to 16,000 tons.

The Haydarpasa Station, Western Terminus of the Anatolian Railway.

plementation of the measures.[40] In 1896, the dual roles of bread guarantor and development agent merged; when Anatolian wheat prices fell below foreign, the government beneficently protected consumers *and* producers, by restricting Istanbul bakers and millers to the use of Ottoman grains. But as soon as the price of indigenous wheat rose, it abandoned the producers. Further, the state generally set the price of bread on the basis of the lower-priced wheat, whether Ottoman or foreign and, in short, favored the Ottoman grain consumer over the Ottoman producer.[41] By doing so, it exacerbated the problems facing Anatolian wheat in its competition with foreign wheats and flours.

Conclusion

The financial performance of the Anatolian Railway Company was poor. The average 5 to 6 per cent dividend annually paid between 1891 and 1914 often exceeded actual net profits, after interest charges. Other yardsticks support this conclusion. Initial investment capital per kilometer was considered high, as a result of both technical difficulties and "speculative excesses," and the same view was expressed towards general overhead costs, which were said to be inflated by clumsy, wasteful, and highly-paid European management. For the German financier, investor, and government, however, the less than spectacular profits were a disappointment that perhaps was offset by the establishment of important German influence in the Ottoman Empire.[42]

The record of the railroad, when viewed from the Ottoman side, likewise is mixed. The lack of branch lines (a vital part of the American railroad system) to funnel goods more cheaply to the Anatolian

[40] *JCCC*, October 6, 1894, p. 471 and March 28, 1896. The state did cooperate in impeding the entry of U.S. flour through a variety of ruses concerning its gluten content and elasticity. Groups seeking to block the imposition of import duties included foreign diplomatic representatives and, probably, Istanbul merchants with established connections in the flour-exporting countries. For a more exhaustive treatment of government relations with Istanbul millers and bakers and the question of bread prices in Istanbul see M. Hoell, "The Ticaret Odası: Origins, Functions, and Activities of the Chamber of Commerce of Istanbul, 1885-1899," (doctoral dissertation, Ohio State University, 1973), 151-174.

[41] The 1897 Anatolian contribution to Istanbul wheat receipts may have resulted from the government decision as well as from the war with Greece. For preference to consumers, see, for example, *JCCC*, March 7, 1896, p. 109; October 5, 1896, p. 469; November 16, 1901, pp. 361-362; December 7, 1901, p. 385; and May 17, 1902, p. 153. Also, *JCCC*, April 25, 1896, p. 199. Encouragement to producers took the form of import duty exemptions for agricultural machinery (see n. 29) and free seed grain distribution to cultivators along the railroad and elsewhere. See, for example, BBA: Orman 1312, Safer Nr. 2; Orman 1314, Safer Nr. 3; BEO 160233, 203203 and 221964.

[42] Derived from Hecker, "Die Eisenbahnen" 1082, 1545-1546 and tables on 1554-1558. Also, Morawitz, *Les finances*, 586-594. The pressure which the German government applied to bring the *Deutsche Bank* into the Bagdad railway project suggests that the bank was not impressed with the financial performance of the Anatolian Railway Company.

Railway limited its impact on transport patterns in the interior, where caravans remained vital to the commercial needs of a large part of Anatolia. Nonetheless, the modernity of the transport system inspired the beginnings of a response in agriculture. Within its restricted zone of influence, the railroad brought many cultivators into the world market nexus, facilitated more extensive adoption of commercial agriculture, and stimulated an important shift in the origins of Istanbul wheat. The battered Ottoman balance of payments benefited both from railroad exports and partial replacement of imported wheat by indigenous wheat in the capital. The industrial sector remained virtually unchanged. Continued receipts of imported flour underline the weakness of the stimulus to industry and render the significance of the provisioning shift less meaningful. Fifteen years after completion of the railroad, foreign sources still satisfied half of Istanbul's bread ingredient needs. These quantities mark not only the presence of nearby, water-linked grain-producing states but also the political weakness and the industrial and agricultural backwardness of the Ottoman Empire. The lack of tariff barriers and the low or inconsistent quality of Anatolian wheat contributed to insufficiency in flour milling facilities. Investment in additional modern mills remained too risky for most entrepreneurs, both in Istanbul and in the interior regions now, ironically, more exposed to foreign competition by the railroad.

The railroad's major contribution, as the government had intended, lay not in economic development but in added military strength. By making possible the rapid shuttling of troops, the line contributed to the Ottoman military victory in the 1897 war with Greece, and helped prolong Ottoman resistance in World War I. The capital could now be fed in wartime from indigenous sources, with fewer of the severe dislocations such efforts previously had caused.

For these strategic and economic benefits, the Ottoman Empire paid a high price. The subsidy paid to the company from 1893 to 1909 totaled 3,500,000 Turkish pounds, which exceeded the total agricultural tax revenues from Ankara province during those years. Put another way, it equalled one-half of all revenues collected in Anatolia during a typical year in the mid-1890s. The cost may have been too high. The railroad, splendid in its technological modernity, neither restored Ottoman power nor stimulated industrial growth. Instead it further harnessed an agrarian economy to European needs. Indeed, as a strategic instrument of the government, the railroad may have served to stave off change by limiting broader economic de-

velopment while helping stabilize the military power of the existing regime and rewarding European backers of imperialism. Looked upon as the investment of an industrial nation in a less developed country, the railroad provided inadequate compensation for the increased indebtedness and economic subordination that accompanied its construction.

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Herbert Hoover, the Wage-earner, and the "New Economic System," 1919-1929*

Herbert Hoover's seven years as Secretary of Commerce raised that department to a level of prestige and influence it has not known since. In the prosperity of the 1920s, real wages rose rapidly, the wage-earners' standard of living began to resemble that of white-collar groups, and all that remained, it seemed, was to replace the traditional antagonism between employer and worker with a system that would give the latter a voice in plant decisions. In this climate, "welfare capitalism" and company unions, encouraged by Hoover's department, flourished for a time. Professor Zieger shows that Hoover never realized that the wage-earner could have no effective representation through company-sponsored schemes. By the late 1920s, some academic experts posited the virtual demise of the labor movement unless it found a means of transcending the limitations that the circumstances of the New Era and its own weaknesses imposed.

In common with many of his generation, Herbert Hoover came to view the labor question as liberal capitalism's greatest challenge.[1] Repeatedly, in the eighteen months after his return from Europe in 1919, he called for the creation of a "new economic system"[2] that would step up output and increase efficiency. He believed that unless the country could enlist workers through a system of representation in the campaign to increase productivity and eliminate waste, it could not meet the demands of the post-war world. For seven years as Secretary of Commerce he effectively encouraged these aims. At the same time, however, Hoover did

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[1] Haggai Hurvitz, "The Meaning of Industrial Conflict in Some Ideologies of the Early 1920's: The AFL, Organized Employers and Herbert Hoover" (doctoral dissertation, Columbia University, 1971), 20; Robert H. Zieger, *Republicans and Labor, 1919-1929* (Lexington, Ky., 1969), 1-9.

[2] Hoover used this phrase on November 16, 1920 in a presentation before the AFL Executive Council. "Industrial Waste Committee – AF of L Correspondence," Pre-Commerce Papers, Herbert Hoover Presidential Library (HHPL). This document is unidentified as to authorship, but see Hurvitz, "The Meaning of Industrial Conflict," 256-258 for convincing evidence of Hoover's authorship.

not similarly promote effective worker representation in industry, although he had identified this goal as basic to the achievement of the others. Impressed by the apparent efficacy of welfare capitalism, proud of the prosperity enjoyed by wage-earners, and aware of the parochialism and lassitude of the AFL, Hoover muted his earlier insistence upon meaningful, democratic, and independent participation by workers in the economic system. If indeed the full realization of Hoover's goals required such participation, liberal capitalism by 1929 rested upon an unsound basis, a weakness that the onset of the Depression helped to expose.[3]

Between 1919 and 1921, Hoover developed and articulated his concept of a new economic system. In speeches, press conferences, and magazine articles, he addressed himself to the economic and social challenges that would face the country in the immediate future. Unlike many Americans, he saw in the social turmoil following the war no threat of radical takeover or basic attack on "the American way." He did hold that in the interrelated problems of production, efficiency, and industrial relations lay the real challenge and the real opportunity to forge a new and modern economic system, one that would build upon the country's traditions of voluntarism, free enterprise, and democracy. To Hoover, the great strikes of 1919 were only symptomatic of deeper problems, problems that would yield to expert knowledge, sympathetic understanding of the difficulties facing workers and employers, and reliance on basic American values.

In scores of speeches and articles, Hoover hammered away at the theme of productivity. Not only did Europe clamor for America's goods, but our own citizens, including notably wage-earners, legitimately expected a rising standard of living. In Hoover's view, traditional capitalism and socialism were equally bankrupt. Society had to find a way to increase productivity and extend its benefits to the entire citizenry, not through increasing the demands on

[3] On Hoover and labor in general, see Stephen J. Scheinberg, "The Development of Corporation Labor Policy, 1900-1940" (doctoral dissertation, University of Wisconsin, 1966), esp. 140-151; Ronald Radosh, "The Development of the Corporate Ideology of American Labor Leaders, 1914-1933" (doctoral dissertation, University of Wisconsin, 1967), esp. 81-94, 149-155, and 187-188; David Walter Eakins, "The Development of Corporate Liberal Policy Research in the United States, 1885-1965" (doctoral dissertation, University of Wisconsin, 1966), 158-170; and Hurvitz, "The Meaning of Industrial Conflict," *passim*. Scheinberg, Radosh, and Eakins were all students of William A. Williams, whose writings (e.g., *The Contours of American History* [Cleveland, 1961; page references to paperback edition, 1966], 415 and 424-432; *Some Presidents: Wilson to Nixon* [New York, 1972], 33-49) have stimulated widespread re-examination of Hoover. Joan Hoff Wilson, *Herbert Hoover: Forgotten Progressive* (Boston, 1975) touches on Hoover and labor 33-34, and 94-98. See also Robert H. Zieger, "Labor, Progressivism, and Herbert Hoover in the 1920's," *Wisconsin Magazine of History*, LVIII, No. 3 (Spring, 1975), 196-208 and *Republicans and Labor*.

workers or through government ownership, but through the application of scientific principles of management within a setting of voluntarism and through expert leadership. Government, he held, would inevitably play a key role, but primarily as a coordinator, mediator, and information-dispenser, not as a coercive or restrictive force.[4]

While the nation's future depended on productivity, Hoover also stressed that "maximum production cannot be obtained without giving a voice in the administration of production to all sectors of the community."[5] As an engineer in touch with the maturing scientific management movement, he knew well that efforts to subject workers to arbitrary systems of production without their consent invariably ended in failure. He applauded the War Labor Board's sponsorship of employee representation as a means of insuring fairness and efficient production during the conflict. Indeed, he believed that the fair, democratic, and independent representation of working people in industry – in matters concerning production no less than in matters touching their direct welfare – was crucial to the success of the effort to step up productivity. "Industry must be humanized," he asserted.[6] Modern factories with their necessarily large-scale operations discouraged personal contact between management and employees. He insisted that American industry had to "re-establish through organized representation that personal cooperation between employer and employee . . . that was a binding force when our industries were smaller."[7] Opposing repression as a solution to labor unrest, Hoover instead proclaimed the need to enlist workers' loyalty and cooperation through recognizing their legitimate desire for a rising standard of living and through developing plans for genuine worker representation. He

[4] See Hurvitz, "The Meaning of Industrial Conflict," for the best overall presentation of Hoover's ideas during this period. Providing a suggestive context into which to place Hoover's views are Charles Forcey, *The Crossroads of Liberalism: Croly, Weyl, Lippmann and the Progressive Era, 1900–1925* (New York, 1961; page references to paperback edition, 1967), 35–37, 83, 157–158, 166, 183, 190; and James Gilbert, *Designing the Industrial State: The Intellectual Pursuit of Collectivism in America, 1880–1940* (Chicago, 1972), esp. ch. 4. See also Ross Thomas Runfola, "Herbert C. Hoover as Secretary of Commerce, 1921–1923: Domestic Economic Planning in the Harding Years" (doctoral dissertation, State University of New York-Buffalo, 1973) and Evan B. Metcalf, "Secretary Hoover and the Emergence of Macroeconomic Management," *Business History Review*, XLIX, No. 1 (Spring, 1975), 60–80. The work of Ellis W. Hawley (e.g., "Herbert Hoover, the Commerce Secretariat, and the Vision of an 'Associative State,' 1921–1928," *Journal of American History*, LXI, No. 1 [June, 1974], 116–140) is richly suggestive on the importance of Hoover's political economy.

[5] Hoover, "Address at . . . American Institute of Mining and Metallurgical Engineers . . . ," November 16, 1919, in Addresses, Letters, Magazine Articles, Press Statements, etc. (item no. 25), HHPL.

[6] Hoover, "Foreword," to "America and the New Era," by M. Friedman, February 4, 1920 (item no. 42A), HHPL.

[7] Hoover address, "Economic, Social, and Industrial Problems Confronting the Nation . . . ," April, 1920 (item no. 55A), HHPL. *New York Times*, February 18, 1920.

was convinced "that the vast majority of American labor fundamentally wishes to co-operate in production" and that workers would respond enthusiastically to efforts to increase productivity and to eliminate waste, so long as their own needs and interests were protected through representation.[8]

Hoover's views on these matters represented a synthesis of several broad streams of recent thought and action concerning the labor problem. Since the 1890s, businessmen had been experimenting with various forms of welfare capitalism. At the same time, technological change and new management techniques were restructuring traditional job classifications and patterns of shop level supervision; increasingly, the personnel manager challenged the foreman as the arbiter of employee relations. Moreover, engineers and efficiency experts contributed to the vigor and sense of change emanating from the country's shops and factories as they applied and enlarged upon the work of Frederick W. Taylor. Although American business harbored its bitter-end advocates of the open shop and its antilabor corporations, some unionists found it expedient to cooperate with businessmen through such vehicles as the National Civic Federation. With his unique international background in engineering, business, and social concern, Hoover followed these diverse trends closely; in addition, he had seen during his lengthy stay in Great Britain the need of modern societies, whether in war or peace, to mobilize and secure the loyalty of their working people. Emerging as a national leader in the postwar period, Hoover developed a synthesis of these diverse initiatives in industrial relations, one that partook of the experiences of businessmen, engineers, efficiency experts, trade unionists, and wartime administrators, but one that met the exacting requirements of the American individualism upon which he based his view of postwar society as well. In 1919–1920, many prominent Americans sought to resolve the problem of industrial conflict, but Hoover brought a powerful combination of experience, intellectual acuity, and boldness to the task.[9]

[8] Hoover address, April, 1920 (item no. 55A), HHPL. For other expressions along these lines, see also Hoover address before Boston Chamber of Commerce, March 24, 1920 (item no. 53), HHPL; Hoover testimony, May 14, 1920, in U.S., Congress, Senate, Committee on Education and Labor, *Hearing . . . on the Report of the Industrial Conference*, 66 Cong., 2 Sess., 1920, 25–42; and Hoover's remarks before AFL Executive Council, November 16, 1920, cited in note 2.

[9] In addition to sources cited in notes 3, 4, and 18, see Wilson, *Herbert Hoover*, 33–43 and Gary Dean Best, *The Politics of American Individualism: Herbert Hoover in Transition, 1918–1921* (Westport, Conn., 1975), v–vi, and 91–107. A lucid account of the changing structure of the American factory system and attendant developments in employee relations in the progressive era is found in Daniel Nelson, *Managers and Workers: Origins of the New Factory System in the United States, 1880–1920* (Madison, 1975).

After his return from Europe, Hoover had two formal opportunities to develop the implications of these ideas. Late in 1919, President Wilson appointed him vice-chairman of the President's Second Industrial Conference, while in the fall of 1920 he was elected president of an engineering body dedicated to developing enlightened solutions to social problems. In both roles, Hoover energetically expounded his views, established contacts with academicians, laborites, and businessmen, and formulated concrete plans. Though these efforts bore few immediate results, they did provide him with a public forum and a body of experience upon which he could draw during his years in the cabinet.

The Second Industrial Congress

Hoover quickly emerged as the leading figure in the Second Industrial Conference. Its *Report* was primarily his handiwork, articulating his overall analysis of the economic system and focusing on the central significance of worker representation. Issued in March 1920, after three months of preparation, it asserted Hoover's view of the close connection among economic growth, reduction of waste, and worker participation.[10] Its major recommendation was an imaginative and sophisticated plan to settle industrial disputes, a plan that strongly endorsed collective bargaining and voluntary processes of implementing it, positing for government a creative and influential, but strictly non-compulsory, role. The *Report* also stressed the need for worker representation in industry, advocating secret democratic election of the workers' representatives who were to be involved in its dispute-settling machinery. Holding that the settlement of labor conflict "must come from the bottom, not the top," it called for "deliberate organization" of the relationship between workers and employers at the plant or shop level. Echoing Hoover's lament that modern industry had occasioned the "loss of personal contact," the *Report* called for "employee representation" on the shop level as a means of reintroducing the productive and mutually helpful personal relationships that had formerly prevailed.[11]

Nelson's *Unemployment Insurance: The American Experience, 1915–1935* (Madison, 1969), 22, 30, 36, 37, 38, 39, 75, 129, and *passim* examines an important aspect of the "New Emphasis" in employee relations and indicates Hoover's place in its development and articulation.

[10] For Hoover's seminal role in the Conference and his authorship of its most significant items, see Hurvitz, "The Meaning of Industrial Conflict," 174–187; Best, *The Politics of American Individualism*, 38–53; and Best, "President Wilson's Second Industrial Conference, 1919–1920," *Labor History*, XVI, No. 4 (Fall, 1975), 505–520.

[11] President's Second Industrial Conference, *Report of the Industrial Conference Called*

Neither the *Report* nor Hoover's subsequent public statements in its behalf was entirely clear as to the exact meanings to be attached to such concepts as "collective bargaining" and "employee representation" or "shop councils." In general, Hoover believed that the role of conflict and violence in industrial relations would diminish as rational personnel policies and expanding productivity gained ground. Labor unions had a role to play in the emerging economic system, but they would be supplemented by other forms of employee representation. The term "collective bargaining" had two meanings. As a reflection of existing reality, it entailed formal, signed contracts between labor unions and employers, arrived at through processes of negotiation that sometimes involved strikes, lockouts, and other forms of industrial conflict. Hoover favored collective bargaining in this sense as a flawed, but necessary, instrument. He frequently spoke out in behalf of unionists who sought to bargain in good faith, defended the right to strike, opposed compulsory adjudication of disputes, and castigated employers who were unwilling to enter into collective bargaining.

However, just as trade unionism was not the only form of employee representation, this conflict model of collective bargaining was not the only form of negotiation and communication between workers and managers. As Hoover saw it, in the modern factory the trade union would be supplemented, and possibly supplanted, by the shop council. It was necessary for shop committees to stand apart from the formal trade union apparatus for two reasons. First, Hoover rejected the closed or union shop as coercive; hence, inevitably there would be non-union workers in most plants, workers whose rights to representation in company affairs had to be respected. Second, the power of craft union traditions in the American labor movement and the consistent inability of the AFL to forge instruments of mass organization insured that if organized at all, a given factory would be represented by several individual unions. Shop committees apart from the trade unions would represent workers according to their actual roles in the affairs of the company and not in accordance with arbitrary and increasingly anachronistic notions of craft. Shop committees would not negotiate contracts but rather would undertake the significant tasks of expressing

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by the President [dated March 6, 1920], in U.S., Department of Labor, *Annual Report for 1920* (Washington, 1921), 236 271. The words quoted appear on pp. 236 238. The phraseology of the *Report* and of Hoover's testimony before the Senate Committee on Labor and Education in its behalf closely parallels the language employed by the Whitley Committee in its famous 1917 report which made similar recommendations on the future of industrial relations in Great Britain. See H. A. Clegg, *The System of Industrial Relations in Great Britain* (Oxford, U.K., 1970), 185–186.

workers' views about production problems, handling welfare matters, voicing grievances, and in general communicating in a constructive way on a regular basis with representatives of management. Since the application of new technologies and new methods of coordination would spur productivity and create more for all, this kind of common meeting (called by one scholar "collective dealing") would permit efficient managers to communicate to well-informed, prosperous workers the details of their growing stake in the company and the economic system.

Hoover always affirmed that labor unions had a role in the emerging economic system, especially since the American labor movement had been so loyal, conservative, and sensible in the past. Still, Hoover's response to actual instances of labor conflict revealed sharp limitations to his willingness to grant legitimacy to trade unionism. A union that sought soberly and cautiously to bargain in good faith with an employer would win his approval. However, a labor movement that turned militant or resorted to aggressive political action would forfeit its claim to be part of the new economic system. Given the passing of American industry into the hands of educated, public-minded managers, given the good sense and conservatism of Samuel Gompers and his lieutenants, and given the productivity and enterprise of "the American way," it seemed to Hoover that his notions of "collective bargaining" and "employee representation" were eminently practical and clearly realizable within the framework of existing industrial relations.[12]

After the issuance of the *Report*, Hoover served as its chief public advocate. In a series of speeches and articles, as well as in testimony before the Senate Committee on Education and Labor, he urged action on its recommendations and support for its underlying concepts. Criticism came primarily from two sources: businessmen alarmed by its endorsement of collective bargaining and worker representation; and organized labor, whose leaders liked neither

[12] The observations in these three paragraphs are drawn from an examination of the entire spectrum of Hoover's public career as it related to labor matters. See *Reports of the Industrial Conference*, 254-256; Best, *The Politics of American Individualism*, 45-47; and Hurvitz, "The Meaning of Industrial Conflict," 174-187. The Second Industrial Conference generated a considerable amount of testimony, as well as many reports and working papers on the subject of employee representation and its relationship to trade unionism and collective bargaining. These materials are housed in the William B. Wilson Papers, Pennsylvania Historical Society, Philadelphia. Wilson was the chairman of the Conference, but Hoover as vice-chairman presided over most of the meetings held while these materials were developed. The scholar quoted is Carroll E. French in *The Shop Committee in the United States*, Johns Hopkins Studies in Historical and Political Science, XLI (Baltimore, 1923), 53. Hoover's clearest expressions are in Herbert Hoover, "*Colliers'* Strike Cure — And its Critics," October 25, 1920, reprint in Addresses, Letters, Magazine Articles, Press Statements, etc. (item no. 100), HHPL; and Hoover, *Testimony*, May 14, 1920, 25-42. See also Zieger, *Republicans and Labor, passim.*

the emphasis on shop committees nor the intricate mediation plan.[13] In his defense of the *Report*, Hoover criticized the narrow minded employers who failed to appreciate the legitimacy of workers' grievances. He reiterated his call for "open and frank relations" between labor and capital, attacking those who viewed repression as an answer to industrial unrest. He denounced employers who might endorse the notion of employee representation while seeking in fact to use it for anti-union purposes.[14]

Hoover acknowledged that organized labor had rejected the Conference's recommendations. He argued, however, that labor had been hasty and imprecise in its reaction; he felt confident that many laborites would reverse their stand when they studied the dispute-settling plan more carefully. He noted that the AFL's criticisms centered on the *Report*'s advocacy of shop committees and remarked that this aspect of its recommendations was "purely voluntary . . . and has no relationship to legislation."[15] When asked whether employers had in fact used representation plans to thwart unionism, he replied that on occasion the idea "has been used against organized labor." But, he added, unwittingly lending support to organized labor's fears, "I would not want to say that it has been used to the detriment of the employee,"[16] thus expressing the very dichotomy between worker and union that laborites so vehemently rejected. In none of his remarks did Hoover clarify his view of the precise nature of shop committees. He asserted their compatibility with trade unionism and scolded those who might employ them to discredit unions. But he did not respond to labor's very real fears about the challenges to its goals seemingly inherent in any system of representation that did not rest firmly and exclusively on trade unionism. Indeed, his testimony obscured the issue, for it reiterated the central importance of "trying to reestablish an intimate relationship directly between the employer and the employee," while at the same time dismissing labor's fears by underlining the "purely voluntary" nature of the shop committees that the *Report* espoused.[17]

[13] For opposition among businessmen, see Hoover address before Boston Chamber of Commerce, cited in note 8, and Hurvitz, "The Meaning of Industrial Conflict," 220 221. For labor's objections, *ibid.*, 221 222; Philip A. Taft, *The A.F. of L. in the Time of Gompers* (New York, 1957), 400 401; Samuel Gompers' statement of March 19, 1920, quoted in William English Walling, *American Labor and American Democracy* (2 vols. in 1; New York, 1926), II, 33. Hurvitz hails the *Report* as a major and innovative step toward public endorsement of unionism and seems perplexed by labor's rejection of its recommendations (Hurvitz, "The Meaning of Industrial Conflict," 222–223).

[14] Hoover address before Boston Chamber of Commerce, cited in note 8; Hoover testimony in *Hearing . . . on the Report of the Industrial Conference*, 33–39.

[15] *Ibid.*, 35 36, 38–39, 41.

[16] *Ibid.*, 36.

[17] *Ibid.*, 36.

Despite Hoover's vigorous public advocacy, the Conference's recommendations received little serious public attention. None were enacted or made part of public policy. The abrupt decline of labor turbulence, the onset of the 1920 presidential campaign, and the growing prominence of the League of Nations debate, together with the tepid reception by both labor and business, all helped to shelve the recommendations. Increasingly, Hoover turned to the engineering movement in an effort to stimulate greater public awareness of economic problems and as a means of undertaking vigorous action.

The Engineering Movement

In November 1920, Hoover accepted the presidency of the Federated American Engineering Societies. For several years, a number of influential progressives in the profession had encouraged engineers to use their expert knowledge and their keen awareness of production and efficiency matters to develop rational solutions to social problems. These engineers envisaged their profession as an independent, apolitical force that could reshape public debate on major issues.[18] Hoover shared their vision. He spoke of one hundred thousand engineers who had carried forth the war effort by virtue of their technical abilities and high-minded dedication. "The problems facing America today," he wrote in 1920, "if attacked in the scientific spirit, will yield similar happy results." Established in 1920 as a kind of caucus of progressive elements in the several engineering societies, the FAES was the institutional embodiment of this enthusiasm.[19]

As President of FAES, Hoover focused intently on labor matters. Before and during the war, a number of industrial engineers had worked closely with organized labor to solve problems of production, efficiency, and labor use. While the scientific management movement had originally displayed an arrogant contempt for the

[18] There is an extensive literature on the engineers and their efforts to become established as a social factor. See Edwin T. Layton, *The Revolt of the Engineers: Social Responsibility and the American Engineering Movement* (Cleveland, 1971), esp. 190 211; Hugh G. J. Aitken, *Taylorism at Watertown Arsenal: Scientific Management in Action 1908 1915* (Cambridge, Mass., 1960); and William Ernest Akin, "Technocracy and the American Dream: The Technocracy Movement, 1919 1936" (doctoral dissertation, University of Rochester, 1971), 19 20.

[19] Hoover's remarks are in "Forward" to "America and the New Era," cited in note 6. For the background of the FAES, see Layton, *Revolt*, 180 189. In 1923 Hoover remarked that engineers were uniquely suited for public service and were by definition men of high intelligence and calibre. "Through the nature of their calling," he remarked, they stand "midway in the conflicts between labor and capital." Hoover to Richard Humphrey, February 1, 1923. "FAES, 1922-1924," Commerce Papers, HHPL. Cf. Herbert Hoover, *Principles of Mining: Valuation Organization and Administration* (New York, 1909), 167.

labor movement, many engineers had learned that narrowly-conceived stopwatch timing and arbitrary programs of efficiency were counter-productive, since they often antagonized workers. To such engineers as Morris L. Cooke, Robert Wolf, and Robert Valentine, the labor movement was capable of intelligent adaptation to new processes if its representatives were included in planning and if the unions' interests were consulted. As a mining engineer, Hoover himself had advocated considerate and open treatment of workers and during the war had come to value his association with Samuel Gompers. Thus, it was natural that he would see in his work with the FAES an opportunity to encourage engineers and laborities to join together to confront the economic challenges that faced the country.[20]

During the latter months of 1920 and through early 1921, Hoover sought to achieve his goals both through formal studies enlisting engineering expertise and through personal contact with labor leaders. One of his first acts as FAES president was to establish a committee for the study of waste in industry. This body was directed by Hoover's chief aide, Edward Eyre Hunt, and formally headed by L. W. Wallace, an engineer who was, if anything, more enthusiastic than Hoover himself about the possibilities of applying technology to social problems. It set about to study waste and inefficiency in a number of industries, with a view to publishing its findings as a major document in the campaign to awaken public attention and to demonstrate the relevance of engineers' work in confronting economic problems. Hoover and his aides sought and received the cooperation of many laborities in preparing the study. For their part, a number of labor leaders participated enthusiastically, for they had come to see engineers such as those active in the FAES as potential allies.[21]

The committee's report, published in June, 1921 under the title

[20] See the sources cited in notes 18 and 19 above. For Hoover's comments on his role as an employer of labor while running mines, see *Principles of Mining*, 162 163, and 167, as well as Hoover address before the Boston Chamber of Commerce, cited in note 8, wherein he declared that "in my own experience in industry, I have always found that a frank and friendly acceptance of the unions' agreements, while still maintaining the open shop, had led to constructive relationship."

[21] On Wallace, see his undated, untitled address (ca. early 1921). "FAES – Industrial Waste Committee. Labor," Pre-Commerce Papers, HHPL. On the Waste in Industry survey, see Samuel Haber, *Efficiency and Uplift: Scientific Management in the Progressive Era, 1890–1920* (Chicago, 1964), 156–160; and Layton *Revolt*, 201–205. On the cooperation between Hoover's aides and laborites, see the considerable correspondence between Edward Eyre Hunt, Robert Wolf, and Florence C. Thorne throughout late 1920 and early 1921. These communications appear in various folders in the "FAES" group, Pre-Commerce Papers, HHPL. See also Jean Trepp McKelvey, *AFL Attitudes Toward Production*, Cornell Studies in Industrial and Labor Relations, Vol. II (Ithaca, 1952), 69 and 117, and Milton J. Nadworny, *Scientific Management and the Unions, 1900–1932* (Cambridge, Mass., 1955), 119–121.

Waste in Industry, justified labor's cooperation. It endorsed collective bargaining and opposed wage reductions, at the time a popular expedient among businessmen pinched by postwar deflation. It attacked the notion that labor agitation fomented economic dislocation, noting, for example, that over the past quarter century strikes had played only a marginal role in creating instability. Moreover, it held that the responsibility for reducing waste lay overwhelmingly with employers, thus implicitly defending workers from the common charge of inefficiency. Hoover, who played little part in the preparation of the study but whose aides worked actively with the engineers, hailed it as "carefully planned and rapidly executed." He felt sure that it would stimulate public and private efforts to raise productivity through the reduction of waste and inefficiency.[22]

Actually, public reaction to the report obscured its message. The FAES, rapidly coming under the control of more conservative elements in the engineering profession, refused to sanction publication under its direct auspices. Many businessmen bridled at the leniency displayed toward labor and at the burden placed on their shoulders. Although organized labor greeted the report enthusiastically, the controversy surrounding *Waste in Industry* significantly undermined progressive influence among organized engineers.[23]

Hoover's other effort to promote his views as FAES president came through direct contacts with the labor movement and, to a lesser extent, with corporate leaders. He corresponded and conferred on a number of occasions with Samuel Gompers, while aides and associates maintained close communication with other laborites.[24] Hoover's goal was to awaken organized labor to the need for greater productivity. At the same time, he sought to convince Gompers of the value of shop committees. In addition, Hoover hoped that the engineers could help to bring about regular meetings among themselves, organized labor, and spokesmen for some of the more progressive-minded corporations. Such regular consultation would facilitate the attack on waste and would break down barriers between

[22] Committee on the Elimination of Waste in Industry, Federated American Engineering Societies, *Waste in Industry* (New York, 1921), 8–9, 13, 16–17, 305–306, 308–317, and *passim*. Hoover's remarks occur on p. ix.

[23] *New York Times*, June 4, 1921, 7; Layton, *Revolt*, 195, 203–205; Nadworny, *Scientific Management*, 120–121.

[24] For examples of direct Hoover-Gompers contact during this period, see Gompers to Hoover, August 13, 1920; Christian A. Herter to Gompers, August 17, 1920; and Hoover to Gompers, October 23, 1920. All in "FAES. Industrial Waste Committee—Gompers," Pre-Commerce Papers, HHPL, and "Conference in Office of President Gompers, Friday, May 27, 1921 on the Question of Wage Theory," Office of the President Files, Samuel Gompers, Conferences, 1919–1922, Box 57, AFL Papers, State Historical Society of Wisconsin. This lengthy report delineates better than any published account the shrewd awareness of labor's self-interest that Gompers displayed in the AFL's association with the engineers during this period.

labor and management, while acquainting both with the work of the engineers.[25]

The high point of this labor-engineering collaboration was a presentation by Hoover before the AFL Executive Council on November 16, 1920. At this meeting, Hoover sought to enlighten labor leaders about productivity, efficiency, and labor representation. He decried any tendency that labor might have to restrict output as a means of saving jobs. He deplored the deadening routinization of much modern work and called for "a renewal of the creative opportunity of the individual workman." Endorsing collective bargaining and acknowledging the unique influence and importance of unions, he called for new forms of "cooperation between management and worker." This, he declared, "involves an acceptance of certain principles of shop councils." He attacked the effort on the part of many businessmen to cut wages in response to deflationary tendencies, but at the same time he suggested wage differentials and incentives to encourage workmanship and to spur productivity. He remained ambiguous about the precise role of organized labor in the "creation of a new sense of cooperation between men and coordination between groups." Earlier, he had assured Gompers directly of his dedication to collective bargaining and of his commitment to "tangible mutual guarantees . . . against violation of . . . collective agreements," but he failed to specify how to accomplish this end. In his presentation before the Executive Council, he called upon organized labor to lead the way toward the "new economic system" that must arise from the war. Its first step, he emphasized, was to encourage "the increase in productivity." Labor must "insist upon securing the cooperation of the employer," he affirmed, but "this the employer cannot refuse . . . when the main motive of the great organized labor movement is to create the working conditions which stimulate the productivity of the individual workman." [26]

It was an impressive performance. Gompers assured Hoover that "there was much that you advocated with which labor is in entire accord." [27] Still, nagging problems remained. Frank Morrison, secretary-treasurer of the AFL, objected to Hoover's wage-differen-

[25] Hoover remarks before AFL Executive Council, November 16, 1920, cited in note 2; Robert B. Wolf to E. E. Hunt, January 3, 1921. "FAES – AFL, 1920," Pre-Commerce Papers, HHPL; Hurvitz, "Meaning of Industrial Conflict," 245-250; Cyrus Ching, *Review and Reflection: A Half-Century of Labor Relations* (New York, 1953), 27-28; Scheinberg, "The Development of Corporate Labor Policy," 145-146.

[26] Hoover's remarks before AFL Executive Council, November 16, 1920, cited in note 2 above; Hoover to Gompers, October 23, 1920, HHPL.

[27] Gompers to Hoover, November 30, 1920, "FAES: Industrial Waste Committee – Gompers," Pre-Commerce Papers, HHPL.

tial suggestions.[28] More serious were Hoover's allusions to shop councils, his emphasis on productivity, and his vagueness about the continuing role of organized labor. Certainly, laborites welcomed Hoover's reiterated endorsement of collective bargaining. At the same time, they remained extremely hostile toward efforts to promote separate organizations of workers dealing directly with management, especially since there was no apparent way to guarantee the forthright, democratic, and independent selection of representatives that Hoover advocated.[29] Although Edward Eyre Hunt and Robert Wolf assiduously cultivated Gompers, hoping to convince him of the value of shop committees, the AFL maintained its antagonism toward them throughout the 1920s.[30]

As with his work with the Industrial Conference, little resulted directly from Hoover's activities as president of FAES. He did help to strengthen the lines of communication between engineers and labor leaders, but at the same time the progressive influence in the engineering societies began to wane. He secured labor's cooperation with the waste-in-industry survey, but his efforts to interest corporate executives in liaison with the AFL failed. Still, his postwar activities had awakened public interest in his views and had provided him with a reputation for astute analysis to go along with his impressive record of public service during the war. For its part, organized labor found its relationship with Hoover and his associates heartening, for the engineers in effect upheld labor's position on wages and collective bargaining during a period of intensifying antilabor feeling. When Hoover announced his decision to join Harding's cabinet, laborites could be sure of at least one sympathetic voice in the government, while Hoover could hope to continue his efforts to secure labor's endorsement for his entire economic program.

[28] Edward E. Hunt to Frank Morrison, November 29, 1920; Morrison to Hunt, December 2, 1920; Hunt to Morrison, December 8, 1920. "Industrial Waste Committee – AF of L Correspondence," *ibid.*

[29] McKelvey, *AFL Attitudes*, 85, 89; James O. Morris, *Conflict Within the AFL: A Study of Craft Versus Industrial Unionism* (Ithaca, 1958), 71. McKelvey (69) emphasizes that this association between laborites and engineers reached its peak just as the massive open shop campaign began making headway. See also note 24 above.

[30] There was an extensive and rather cryptic correspondence between Hunt, Robert Wolf, and Florence C. Thorne, Gompers' administrative assistant, from November 1920 to March 1921. See e.g., Florence C. Thorne to Hunt, December 29, 1920. "Industrial Waste Committee: AFL, 1920," Pre-Commerce Papers, HHPL; Thorne to Wolf, date missing but ca. January 1921. "Industrial Waste Committee: AFL, 1921," *ibid.*; Wolf to Hunt, January 3, 1921. "Industrial Waste Committee: AFL--1920," *ibid.*; exchange between Wolf and Hunt, January 8, 10, 1921. "Industrial Waste Committee: AFL, 1921," *ibid.*, and many other communications in these and related folders.

Secretary of Commerce

Hoover's acceptance of a cabinet post represented a conscious decision to seek needed social change through government. He secured from Harding the promise that he would have a voice in a broad range of concerns, including labor. Although his many pronouncements on the process of orderly social change had emphasized the activities of private voluntaristic associations and organizations, his efforts as a private citizen revealed to Hoover the necessity for energetic government action. It was clear that only through the national forum that the cabinet provided could he coordinate, facilitate, and publicize on a scale necessary to secure the innovation and cooperation among private groups needed to effect broad changes. Some of his supporters and admirers feared that cabinet service would detract from his earlier efforts and would inevitably entail sacrifice of his broad vision through political compromise. But, as the disapproving Edward Eyre Hunt remarked, "Mr. Hoover sees in the Department of Commerce a great opportunity to make the work of the engineers effective on a national scale." [31]

Throughout his years in the cabinet, Hoover implemented parts of his postwar program. He was a major force in stimulating productivity and in publicizing the need for efficiency and reduction of waste. Through his energetic administration, the Department of Commerce encouraged construction of highways, private building and ownership of homes, standardization of parts, and other processes designed to streamline American enterprise. The Department, staffed by Hoover disciples, pioneered in the acquisition and distribution of economic information. It grew administratively in the twenties, promoting foreign trade, transportation, and new marketing and distributing methods. At the same time, the Department established or strengthened its jurisdiction in such areas as radio broadcasting, aviation, highways, and flood relief. Owing in part to departmental encouragement, industry increased productivity very substantially in the period 1919–1929. Although the elimination of waste was less susceptible to measurement, Hoover and his department continuously drew attention to the relationship between productivity and prosperity and worked hard to stimulate businessmen to revise antiquated and inefficient operations. It is true that the economy in the 1920s did have weak spots, notably certain phases of agriculture, textiles, and coal mining; but Hoover and

[31] Hunt to Thorne, March 2, 1921. "Industrial Waste Committee: E. E. Hunt," *ibid.*

his department were active even in these areas, although they did not claim exclusive responsibility.[32]

Under Hoover, the Department of Commerce also sought to promote the third of his postwar goals, the prosperity and representation of the wage-earner. In labor matters, however, Hoover's sphere of action was limited administratively. The Department of Labor, of course, had formal jurisdiction over most areas of industrial relations, from the amelioration of disputes under the Conciliation Service to the gathering of information through the United States Bureau of Labor Statistics. In addition, a separate agency, the United States Railroad Labor Board, handled matters in a key area of concern. Still, Hoover's view of the worker as a central figure in his overall efforts to invigorate the American economy caused him to intervene in many labor matters, both as the promoter of long-range policies and as the manager of specific problems and crises. In these efforts, he was aided by the fact that the Secretary of Labor, James J. Davis, was a man of limited experience and influence. Indeed, Davis, a businessman and fraternal order executive, devoted much of his official attention to immigration matters and cheerfully acquiesced in Hoover's ascendancy in labor policy.[33]

According to Hoover's analysis of 1919–1921, there were two key elements in the achievement of justice for the American worker: a rising standard of living and a meaningful voice in the decisions that affected his working life. In general, Hoover sought to promote the first of these through general economic growth. Throughout the decade, for example, he favored tax policies that would benefit lower income groups. He actively encouraged residential construction and widespread home ownership. An enthusiastic booster of the automobile industry, he favored large-scale road construction and mass ownership of private vehicles. He helped the advertising and consumer-credit sectors, both so essential in a consumer-oriented society, to grow substantially.[34]

Social scientists such as Leo Wolman and Robert and Helen Lynd noted in the twenties the spread of consumer affluence over broad

[32] For some of the recent literature on Hoover's overall policies in the 1920s see Wilson, *Herbert Hoover*, 283–300, and the articles by Metcalf and Hawley cited in note 4 above. Akin, "Technocracy and the American Dream," 111, cites figures on productivity.

[33] Zieger, *Republicans and Labor*, 9, 57–60, 69, and 109–110; Robert H. Zieger, "The Career of James J. Davis," *Pennsylvania Magazine of History and Biography*, XCVIII, No. 1 (January, 1974), 74–84; John Bruce Dudley, "James J. Davis: Secretary of Labor under Three Presidents, 1921–1930" (doctoral dissertation, Ball State University, 1972).

[34] Herbert C. Hoover, *The Memoirs of Herbert Hoover: The Cabinet and the Presidency* (New York, 1952), 40–258, *passim*. Hoover addresses: "Reducing the Cost of Distribution," January 14–15, 1925; "Elimination of Industrial Waste in its Relation to Labor," April 11, 1925; and "The Public Relations of Advertising," May 11, 1925. Photoduplicated copies from HHPL.

segments of the population; the Lynds observed in Middletown the apparent weakening of class lines, as workers bought homes, owned automobiles, and participated increasingly in the community's recreational life.[35] In a 1928 campaign speech, Hoover heralded some of these changes: in the 1920s, he declared, national income had increased by 45 per cent, production by 25 per cent. "These increases," he declared, "have been widely spread among our whole people." He pointed to the construction of 3,500,000 new homes, the electrification of 9,000,000 residences, the installation of 6,000,000 telephones, the purchase of 7,000,000 radio sets and 14,000,000 automobiles. Figures developed by the Conference on Unemployment revealed that access to these labor-saving and pleasure-giving devices was reaching well into the working class.[36] Indeed, although Hoover's hope that the nation was close to eliminating poverty was premature, he could well claim in the 1928 campaign that working people had achieved under Republican auspices a standard of living and an opportunity to enjoy the delights of modern technology unprecedented in human history.

As Secretary of Commerce, Hoover relied primarily on the efficient workings of a revitalized economy to create and distribute these benefits. His Department was extremely active in support of enterprise, in publicity and promotional work, and in efforts to insure coordination and efficiency among the various regional and functional sectors of the economy, but Hoover and his aides avoided direct governmental action wherever possible. Hoover implemented his postwar beliefs that voluntarism, private initiative, and individual enterprise, aided by an energetic but noncoercive government, held the key to economic growth and social progress.[37]

[35] Leo Wolman in Conference on Unemployment, *Recent Economic Changes in the United States: Report of the Committee on Recent Economic Changes of the President's Conference on Unemployment* (2 vols.; New York, 1929), I, ch. 1, and II, ch. 6; Leo Wolman and Gustav Peck, "Labor Groups in the Social Structure," in Research Committee on Recent Social Trends, *Recent Social Trends in the United States: Report of the President's Research Committee on Recent Social Trends* (2 vols.; New York, 1933), I, 801-856; Robert S. and Helen Merrell Lynd, *Middletown: A Study in Contemporary American Culture* (New York, 1929), 64-65, 81-82. The Lynds' brilliant study, however, depicts the life of working class people in Middletown as declining in occupational mobility, job satisfaction, and neighborhood comradeship.

[36] Hoover's remarks are reprinted in *Memoirs, Cabinet and Presidency*, 183-184; Wolman in *Recent Economic Changes*, I, 13-78, esp. 59-62.

[37] Among many speeches and writings reflecting these themes, see, e.g., "Reduction of Waste in Government . . . ," May 21, 1925; "State Versus Federal Regulation in the Transformation of the Power Industry . . . ," June 17, 1925; "Commercial Aviation," September 23, 1925; "Government Ownership," September 29, 1925; and "Why the Public Interest Requires State Rather than Federal Regulation . . . ," October 14, 1925. Photoduplicated copies from HHPL. See also *Memoirs, Cabinet and Presidency, passim.*, and Herbert Hoover, *American Individualism* (Garden City, N.Y., 1922), as well as Zieger, *Republicans and Labor*, 60-63. For a trenchant contemporary critique of Hoover's brand of localism, see Walling, *American Labor and American Democracy*, I, 210.

Unemployment and the Long Work Day

There were occasions, however, when social conditions demanded more forceful governmental action. If American workers were to achieve the prosperity and self-respect necessary for their full integration into the economic system, such inequities as unemployment and the long working day had to be eliminated. In neither of these matters could society rely upon purely private action: unemployment, because of its complexity and diffuseness; and the twelve-hour day, because short-sighted employers would not recognize that adoption of the eight-hour day was in their own interest. Thus, Hoover felt that both unemployment and the twelve-hour day demanded more assertive federal action than he was ordinarily willing to countenance.

"There is no economic failure so terrible . . . [as] that of a country possessing a surplus of every necessity of life in which numbers [of people], willing and anxious to work, are deprived of the necessities," he declared. From mid-1921 through early 1922, Hoover mobilized academic and engineering experts, businessmen, and labor leaders in the President's Conference on Unemployment to fight joblessness. Although these efforts did not contemplate direct federal relief, they did evolve elaborate plans for continuing coordination of private, state, and local relief efforts. Under Hoover's direction, the Conference illuminated the part played by industrial waste and poor economic coordination in creating joblessness, dispelling the time-honored notion of individual inadequacy as the root cause. Although the Conference in reality had little impact in producing the economic upturn of the mid-1920s, Hoover thought that his reliance on voluntarism had achieved startling results. In 1928, he hailed the work of the Conference, declaring that "within a year we restored . . . five million workers to employment." [38]

Unemployment was an example of social inefficiency that Hoover thought would yield in time to improved economic techniques and better integration of functions. The long working day, however, remained in force in such important industries as steel, because of the unwise labor policies of the employers, who pointed to the peculiar technology of their industry. (Elsewhere, workdays of more

[38] On the effort against unemployment, see Carolyn Grin, "The Unemployment Conference of 1921: An Experiment in National Cooperative Planning," *Mid-America*, LV, No. 2 (April, 1973), 83–107, and Zieger, *Republicans and Labor*, 88 97. The words quoted appear respectively in President's Conference on Unemployment, *Report* (Washington, 1921), 28, and Hoover address of September 17, 1928, in Hoover, *The New Day: Campaign Speeches of Herbert Hoover* (Stanford, Cal., 1928), 66–67.

than ten hours were unusual by the 1920s.) In his view, there was no excuse for the long working day. The industrial worker in the postwar era was emerging from an era of often harsh living and working conditions into a period of prosperity, self-respect, and enlightenment. Not only was this trend desirable on humanistic grounds, it was necessary if the industrial worker was to play his assigned role as a contented consumer, participant, and loyal partisan of the "new economic system."

Between 1921 and 1923 Hoover launched a shrewd and effective campaign to induce the steel industry to adopt the eight-hour day. When personal pressure from Hoover and President Harding failed to move the steel men, he drew upon the efforts of academicians, engineers, and the press in behalf of the steel workers. Finally, after two years of carefully applied pressure, the steel magnates reluctantly agreed to move from the twelve- to the eight-hour day. Hoover was enormously proud of this accomplishment. "Owing to public opinion and some pushing on our part," he later recalled, "the twelve-hour day was on the way out in American industry."[39]

Indeed, the elimination of the long work day in steel was significant. Still, it was essentially a preliminary step toward achieving the position for the industrial worker that Hoover's "new economic system" seemed to envisage. In the steel industry itself, the companies recovered part of the financial losses that the change entailed by employing large numbers of low-paid Mexican and black workers. Moreover, Hoover's methods represented a kind of dead end for the steelworkers themselves. It would be a long time before such a combination of employer arrogance, favorable public opinion, expert engineering and academic analysis, and tenacious governmental insistence would be at their disposal again. Hoover could indeed feel proud that his efforts had been instrumental in achieving a favorable social change, but nothing in the twelve-hour day initiative did anything to encourage meaningful employee representation in the steel industry. Energetic public and private action had achieved a humane reform, but it also highlighted the inability of the steelworkers to assert themselves directly. If elimination of the twelve-hour day represented a triumph of Hoover's methods, it also underscored workers' inherent weaknesses without access to the representation that Hoover himself had earlier identified as crucial

[39] Zieger, *Republicans and Labor*, 97–108; Hoover, *Memoirs, Cabinet and Presidency*, 103–105; Charles Hill, "Fighting the Twelve-Hour Day in the American Steel Industry," *Labor History*, XV, No. 1 (Winter, 1974), 19–35.

to the creative and dignified role workers were to assume in the emerging economy of modern America.[40]

Labor Representation

The problem of representation was not limited to steelworkers. Indeed, Hoover's inability to promote the participation of workers in the conduct of industry eventually weakened the general economic program that he had articulated in the postwar months. During that period he attached great importance to meaningful organization as both a right and a necessity for workers. He declared repeatedly that employers had to abandon arbitrary personnel policies. Hoover embraced the American Federation of Labor as a major factor in securing the rudiments of dignity and protection for America's wage-earners. He hailed the federal government's wartime support for worker representation, whether through the trade unions or shop committees. Not only was it just and fair and democratic for workers to choose representatives to deal with management in an atmosphere free of fear and antagonism, it was vitally important for the success of the rest of his economic program. Until employers recognized the right of their operatives to representation, the old system of class antagonism, disharmony, and contentiousness would continue to characterize industrial relations. But if workers gained a voice through plant committees, the opportunity would be present for worker and employer to discuss grievances, production problems, and all other matters affecting the welfare of employees and the success of the business. With an intelligent system of representation, the new economic system could claim the loyalty of the worker and his active support in solving problems of productivity and waste. Without such a system, class antagonism, local grievances, and worker alienation would eat away at even the most progressive system of technology and enlightened management.[41]

Hoover's views on worker representation bore similarities to the views of a number of practitioners of the relatively new discipline of personnel management, and to the ideas of progressive-minded corporate executives. At the same time, but from a different angle,

[40] Zieger, *Republicans and Labor,* 107–108; David Brody, *Steelworkers in America: The Nonunion Era* (Cambridge, Mass., 1960), 274; Paul S. Taylor, *Mexican Labor in the United States,* University of California Publications in Economics, Vol. VII, 1931–1932 (2 vols.; Berkeley, 1932), II, 34–39.

[41] The sources cited in footnotes 2, 5, 6, 7, and 8 above, together with Hurvitz, "The Meaning of Industrial Conflict," 172 and *passim.* reveal the central importance of representation in Hoover's postwar utterances.

they came close to ideas germinating in the American Federation of Labor. The men in charge of personnel matters for such large corporations as United States Rubber, Goodyear, Standard Oil of New Jersey, International Harvester, and others involved in mass production agreed that it was essential for corporations to gain the active loyalty of their employees. To such executives and personnel specialists as Clarence J. Hicks, Cyrus Ching, Arthur H. Young, Mackenzie King, and Alexander Legge, concern for employee welfare, including efforts to establish communication with workers through various plans of representation, made good sense. They agreed with Hoover that the long working day, the fear of arbitrary dismissal, and the subsistence wage were vestiges of the industrial past. Workers who had economic, social, and psychological ties to the corporation, they felt, performed their tasks more efficiently, were less critical of management's policies, and were less prone to absenteeism and frequent job-changing.[42]

Hoover's call for representation, of course, found favor with the labor movement as well. Certainly Samuel Gompers and other laborites had always proclaimed the right of workers to free and uncoerced representation; this concept was the very essence of organized labor. Moreover, many laborites harbored hopes that in the postwar industrial milieu – a period that began with organized labor in a stronger and more influential position than ever before – the unions could expand, not only in membership, but in control over industrial processes as well. In fits and starts, inconsistently and amid other concerns, the labor movement put forth claims for consultation in the operation of the economic system. In part extending the logic of their own long term commitments, in part responding to public pressure to help boost productivity, and in part influenced by favorable contacts with progressive engineers and industrial management experts during and after the war, such laborite figures as Matthew Woll, William English Walling, Hugh Frayne, and Gompers himself asserted the need to restructure the American economy and its system of industrial relations. Workers and unions, these and other spokesmen acknowledged, should indeed be concerned about the broad problems of productivity and efficiency. At the same time, they asserted labor's right to representation and con-

[42] The best account of welfare capitalism is Irving Bernstein, *The Lean Years: A History of the American Worker, 1920-1933* (Boston, 1960), 157-189. See also Scheinberg, "The Development of Corporation Labor Policy," chs. 5–6; David Brody, "The Rise and Decline of Welfare Capitalism," in John Braeman, Robert H. Bremner, and David Brody, eds., *Change and Continuity in Twentieth Century America: The 1920's* (Columbus, Ohio, 1968), 146-178; Clarence J. Hicks, *My Life in Industrial Relations: Fifty Years in the Growth of a Profession* (New York, 1941), 41-84; and Cyrus Ching, *Review and Reflection*, 25-31.

sultation in the efforts of industry to meet the postwar challenges. And, of course, the only legitimate vehicle for such representation was the American Federation of Labor and the other *bona fide* labor organizations.[43]

Fundamentally, labor's notions of representation and those of even the most progressive corporations were irreconcilable. Employee representation to a laborite meant a vigorous, independent, and active union. Employee representation to the overwhelming majority of those associated with welfare capitalism in the 1920s meant shop councils of workers chosen from within the plant. While theoretically open to the participation of members of unions, these bodies were conceived of as rival centers of activity and were often inaugurated in part to preclude or eliminate trade unionism. Although Hoover joined academicians and engineers in urging unionists and employers to resolve their differences in the matter of representation, in fact the interests of the two parties were fundamental and irreconcilable.[44]

Throughout the 1920s, organized labor retreated from its initial postwar aggressiveness and waged a rear guard defense against the employee representation/welfare capitalism movement. Many factors combined to the disadvantage of the AFL and other standard organizations. A hostile public attitude, unrelenting judicial assaults, political isolation, and erosion of the labor force in traditional areas of union strength all played their parts. In addition, organized labor's own weaknesses and confusions loomed large. When expressed by Gompers, labor's new-found interest in productivity and efficiency was plausible and not necessarily inconsistent with tough-minded trade unionism. When put forth by the meeker, less prestigious William Green, such notions smacked of blatant class collaborationism. Then too, the AFL did not organize the unorganized. Proclaim as it did its right to speak for workers as a class, its membership declined sharply. More important, its remaining strength became ever more narrowly concentrated in a few protected occupations, while the vast tides of workers manning the relatively new

[43] Hurvitz, "The Meaning of Industrial Conflict," ch. 2; McKelvey, *AFL Attitudes*, 25–45; Walling, *American Labor and American Democracy*, II, 41–47, 82–90.

[44] In addition to the works by Brody and Bernstein cited above, see Robert Ozanne, *A Century of Labor-Management Relations at McCormick and International Harvester* (Madison, Wisc., 1967), ch. 7. A defense of employee representation is found in Hicks, *My Life in Industrial Relations*. See also French, *The Shop Committee in the United States*, for a scholarly contemporary account that treats employee representation as a valid, if flawed, enterprise. For indications of Hoover's interest in bringing labor leaders and progressive corporate executives together, see Ching, *Review and Reflection*, 27–28; Radosh, "Corporate Ideology," 145–155, 157, and 204; Morris, *Conflict Within the AFL*, 68–71; Hoover to William Green, November 11, 1925. "AFL – William Green," Department of Commerce, Official Files, HHPL.

mass production industries remained unorganized. After the bitter defeat in steel in 1919 and 1920, the AFL could muster only one half-hearted assault on the new industries: its ill-conceived and ill-supported gesture at organizing the automobile industry in 1927.[45]

While traditional unionism declined and narrowed, employee representation under corporate auspices mushroomed. By 1929, almost 2,000,000 workers were enrolled in various plans of representation. These varied from elaborate schemes of "congressional" representation, in which spokesmen for workers, supervisory personnel, and management recapitulated the three branches of the federal government, to simple shop committees. These experiments were particularly noticeable in mass production industries and were closely intertwined with the welfare capitalism that personnel management enthusiasts promoted as a means of mobilizing workers in support of corporate loyalty.[46]

Hoover never realized that employee representation constituted a major threat to trade unionism in several respects. On the most basic level, even "enlightened" employers frequently used these schemes as part of an antiunion program. Of course, employers rarely revealed this intention explicitly; they contended that both union and non-union workers were free to join and participate. But since the essence of American trade unionism in the 1920s was collective bargaining, and since employee representation plans by definition precluded such arrangements, it was clear that the presence of union men would be nothing more than a token gesture. During the war, the AFL had endorsed the War Industries Board's shop councils, but only because laborites expected that these bodies under government supervision would either be dominated by the unions or would serve in open shops as bridges to *bona fide* organization. Shortly after the war ended, when it became apparent that employers were promoting shop councils as a means of eliminating trade unionism, the AFL condemned all forms of nonunion employee representation.[47] Hoover supported both "collective bargaining"

[45] McKelvey, *AFL Attitudes*, 45 61, 87 98; Bernstein, *Lean Years*, ch. 2.

[46] Various forms of employee representation are discussed in Milton Derber, *The American Idea of Industrial Democracy, 1865-1965* (Urbana, Ill., 1970), 219 263, and in Gilbert, *Designing the Industrial State*, ch. 4. The apparent success and popularity of these programs are noted in French, *The Shop Committee*, 92-94; McKelvey, *AFL Attitudes*, 52-61; and Brody, "The Rise and Decline of Welfare Capitalism," 162 165.

[47] Shop committee advocates denied that their intent was to destroy or curtail unionism; indeed, some saw themselves as providing representation to workers ignored by the *bona fide* labor movement. See, e.g., Hicks, *My Life in Industrial Relations*, 78 79. Evidence of the anti-union intent and impact of the great majority of nonunion employee representation plans, however, is overwhelming. See the works by Brody, Bernstein, McKelvey, and Ozanne cited above, especially the last-named, which is based on the records of works councils at various International Harvester plants. For the AFL position, see Gompers' statement of March 19, 1920, quoted in Walling, *American Labor and American Democracy*, II, 33, and McKelvey, *AFL Attitudes*, 41 43, 88-89.

and "employee representation" but did not acknowledge the basic divergence of these two goals in the 1920s.

On another level, representation plans threatened the labor movement because of the apparent popularity they enjoyed among some workers. The craft-dominated AFL held little appeal for workers in mass-production industries. Its jealously guarded jurisdictional satrapies made no sense to hundreds of thousands of new mass production workers. Nor did these recruits to the new industrial society find much in its combination of craft exclusivism and organizational passivity to stir their hearts. Clarence J. Hicks, personnel director of Standard Oil of New Jersey and one of the most astute proponents of welfare capitalism, remarked that the AFL's distaste for the representation of employees in the mass production industries in shop councils "was entirely consistent with its traditional slowness" in attempting to organize the unskilled masses.[48]

So effective were some representation plans in securing and retaining worker loyalty, one economist asserted, that "the battle is not so much between the unions and the employers as between groups of employees." Academic observers with close ties to the labor movement, such as William Leiserson, Leo Wolman, and George Barnett all saw employee representation as a vigorous and plausible alternative to traditional trade unionism. Corporations using employee representation found it effective in channeling and buffering employee grievances, creating a sense of loyalty to and identification with the company among workers, and discouraging trade unionism. Although representation plans provided far more propaganda and good will value to employers than they did democratic representation to workers, the labor movement seemed unable to meet their challenge.[49]

Given his oft-repeated postwar emphasis on the importance of effective representation, Hoover was curiously silent during his cabinet years on the subject. He played a leading part in many labor controversies, helping to mediate the 1922 shopmen's strike and becoming directly involved in efforts to pacify the turbulent coal in-

[48] McKelvey and Brody, cited above, provide the best evidence for the real challenge that representation plan posed for the AFL. For a brilliant extension of this point into the 1930s, see David Brody, "The Expansion of the Labor Movement: Institutional Sources of Stimulus and Restraint," in Stephen E. Ambrose, ed., *Institutions in Modern America: Innovation in Structure and Process* (Baltimore, 1967), 11–36. Hicks' remark is in *My Life in Industrial Relations*, 82.

[49] The quotation is from French, *The Shop Committee*, 93. See also Derber, *The American Idea of Industrial Democracy*, 227–229; Leo Wolman, "Industrial Relations," in Edwin R. A. Seligman and Alvin Johnson, eds., *Encyclopedia of the Social Sciences* (15 vols.; New York, 1932), VII, 715–716; William Leiserson, "Contributions of Personnel Management to Improved Labor Relations," in Wertheim Fellowship Publications, *Wertheim Lectures on Industrial Relations* (Cambridge, Mass., 1929), ch. 5; and Brody, "The Expansion of the Labor Movement," 11–12.

dustry, for example.[50] He maintained friendly relationships with many trade unionists, who in turn listened attentively to his many pleas for productivity and efficiency.[51] However, although he verbally deplored the use of representation schemes by employers as a means of defeating trade unionism, he concerned himself hardly at all with the actual patterns of representation that developed. Thus, while organized labor thrashed about, desperately seeking ways of coming to terms with the adverse climate of affairs in the 1920s, Hoover remained on the sidelines, apparently unwilling to subject the actual functioning of the employee representation movement to the tests of fairness and integrity that he had himself urged in his postwar recommendations. Forceful and articulate in his exposure of problems of production and efficiency, he was silent and acquiescent in his attitude toward representation.

Hoover did not express himself directly as to his enthusiasm for the pattern that was emerging in employee representation. Nonetheless, his lack of commentary on the issue of representation throughout the late 1920s and during the 1928 presidential campaign contrasts with the vigor and sense of commitment characteristic of his earlier utterances. Moreover, while Hoover himself did not comment directly on the decay of the AFL, several academicians closely associated with his activities in the 1920s did. Leo Wolman, who served on the Conference on Unemployment and who wrote major sections of the *Recent Ecenomic Changes* and *Recent Social Trends* volumes, frequently expressed pessimism about the ability of the unions to cope with the changing economic system, as did Professor George Barnett of Johns Hopkins University, a consultant for Hoover-inspired projects in the 1920s. Herbert Hoover's brother, Theodore Jesse Hoover, dean of the School of Mining at Stanford, wrote in 1932 that unions were destined for replacement by "company unions, shop committees, open forums, and the like" unless they rapidly adjusted to new conditions. The Secretary of Commerce could not express himself directly on these matters and still retain the good will of labor leaders, but his silence on the representation matter, together with the social and intellectual ambience that surrounded him, suggests that he accepted the patterns

[50] Zieger, *Republicans and Labor*, 110, 120, 129–130, 132–133, 137, 138, 143, 217, 227–234, 236–247, and *passim*.

[51] On Hoover's continuing influence among unionists, see, e.g., "The Road to Industrial Democracy," *American Federationist*, XXXI, No. 6 (June, 1924), 482; Walling, *American Labor and American Democracy*, II, 32–33, 41, 91, 93, 113; and Radosh, "Corporate Ideology," 145–247, *passim*.

of employee representation that prevailed in company-sponsored programs as legitimate.[52]

Several factors help to account for Hoover's relative inaction. The problem of asserting rights to effective representation was, after all, organized labor's. Short of sponsoring sweeping federal involvement in the creation of a drastically innovative system of collective bargaining, he could only publicize and exhort.[53] Labor's inability to meet the challenge of welfare capitalism bespoke its anachronistic structure and is inability to change in tune with modern capitalism. Still, Hoover could and did speak out vigorously and effectively on other public issues of concern to him, in sharp contrast to his inaction in the field of representation.

Moreover, Hoover's postwar utterances were never very precise about the exact nature of representation and its relationship to unionism. While he asserted frequently the need for workers to acquire a voice in industry, he refused to specify the nature of such representation. The strong implication behind the shop committee concept was that it would function somehow separately from whatever union organization might exist in the shop. Hoover saw shop committees as opportunities for workers and employers to meet together directly to discuss grievances, production problems, and general conditions. Such a system, while in Hoover's view fully compatible with a union agreement on broad conditions of employment, by no means required trade union organization. Hoover was never able to grasp labor's objections to shop committees as bodies inherently manipulative and destructive of solidarity. Hoover envisaged the organization of workers together with employers; organized labor regarded the organization of workers in their own unions as requisite to any subsequent cooperation or negotiation with employers. This difference was fundamental, though never acknowledged by Hoover as such.[54]

His inability to come to grips with unionists' objections to shop committees in part reflected his background. Hoover's natural associations were not with laborites but with the progressive and in-

[52] Theodore Jesse Hoover, *The Economics of Mining (Non-Ferrous Metals)* (Stanford, Cal., 1932), 460 461. On Wolman, see Arch W. Shaw to Hoover, July 29, 1930. "Unemployment Advisory Committee – May July, 1930," Presidential Papers, Subject File, HHPL, and Wolman's writings mentioned in footnotes 35, 49, and 62. On Barnett, see Brody, "The Expansion of the Labor Movement," 11, and L. W. Wallace to Hunt, December 24, 1920. "FAES – Industrial Waste Committee. Wallace, L. W.," Pre-Commerce Papers, HHPL.

[53] Organized labor, after all, did not achieve massive organization until it secured direct federal legislative support in the 1930s. Espousal of such legislation as Section 7(a) of the NRA or the Wagner Act was simply beyond the pale of Hoover's voluntaristic system, although it took this legislation to make possible the kind of free and fair choice that Hoover had urged after World War I.

[54] See Walling, *American Labor and American Democracy*, II, 41, 93, 94, and 116.

novative managers who ran the emerging industrial machine. He was impressed with the efforts of John D. Rockefeller, Jr., Clarence J. Hicks, Mackenzie King, and other practitioners of welfare capitalism and company-sponsored employee representation. During his service on the President's Second Industrial Conference he conferred with Rockefeller about the plan he was developing. When Mackenzie King, architect of Rockefeller's plan of nonunion representation for the Colorado Fuel and Iron Company, praised the Conference's recommendations, Hoover publicly advertised King's remarks. He considered Alexander Legge, a key figure in the development of International Harvester's "model" representation system, one of the ablest and most progressive of corporate leaders. He was thoroughly familiar with the employees in the Special Conference Committee, an inter-industry body formed after World War I and designed to coordinate nonunion employee representation efforts.[55]

Hoover's high regard for the good intentions and abilities of corporate managers stemmed from his analysis of the transformation of the economy. Increasingly, ownership was separated from management, thus greatly diffusing corporate power. New managers, he declared, "are gradually coming into a new vision of their relationships" with capital, labor, and consumer. Increases in productivity and improvements in efficiency, he proclaimed in 1925, "are bound . . . to be shared with labor to secure service and contentment." The age of big business as an arbitrary and ruthlessly exploitative force was past; under the new arrangements, he declared, "labor has the opportunity to interpret co-operation with management into [sic] real gains." Apparently, to Hoover the shrinkage of organized labor's membership and its growing, partly self-imposed isolation from the new mass production industries did not impair the efficacy of this evolving industrial "regime." Hoover regarded the effective organization of workers, despite the concurrent decline of the labor movement itself, as a kind of built-in concomitant of the emerging economic order, a view that implicitly accepted nonunion employee representation programs as legitimate reponses to his call for representation.[56]

[55] Hoover to Rockefeller, January 10, 1920. "Rockefeller," Pre-Commerce Personal Papers, HHPL; summary of Mackenzie King's remarks enclosed in Stanley King to Mr. Knese, private secretary to Herbert Hoover, March 10, 1920. "Second Industrial Conference – General," Pre-Commerce Papers, *ibid.*; *New York Times*, March 21, 1920. On International Harvester's reputation, see French, *The Shop Committee*, 41. For the Special Conference Committee, see Ozanne, *A Century of Labor-Management Relations*, 156-161, and Scheinberg, "The Development of Corporation Labor Policy," 152-156. On Legge, who served as a sub-cabinet officer in Hoover's presidential administration, see Ozanne, 137, 138-139, and Hoover, *Memoirs, Cabinet and Presidency*, 103, 220, 255, and 327, as well as Hicks, *My Life in Industrial Relations*, 44.

[56] The quotations in this paragraph are drawn from Hoover's address, "Elimination

In 1920, Hoover had asserted that "the friction between employer and employee in developing collective bargaining arises almost wholly over the question of representation and questions of enforcement."[57] It is true that he verbally criticized employers who resorted to shop committees for anti-labor purposes, and he did sporadically attempt to bring corporate managers into liaison with AFL leaders. But when these men refused to contemplate the relinquishment of managerial prerogatives that meaningful association with organized labor would have entailed, Hoover confined whatever disapproval he felt to private expression. Throughout the 1920s organized labor declined, while thousands of workers, bereft of the experience, expertise, and financial strength that only a national labor movement could have provided, were enrolled in company unions and related plans of representation.

By 1929, the partial achievement of Hoover's postwar goals left the American wage-earner in an ambiguous position. His labors were increasingly productive and he could choose from a wide range of modern appliances and consumer luxuries. Still, wages lagged substantially behind productivity; beneath the surface of working-class life lurked the demands of assembly-line production, economic and social insecurity, and powerlessness.[58] Without an effective labor movement, American workers could only hope that the "new economic system" would continue to function with the apparent efficiency and vigor it had displayed since the mid-1920s, for they had not yet achieved their own sources of strength from which to hold the system to account.

Hoover was sharply aware that severe economic and labor problems remained. His efforts to rationalize the soft coal industry boomeranged into bitter recriminations between himself and John L. Lewis, while in 1927 the bituminous miners launched one last, desperate strike. The construction industry was hampered by jurisdictional problems, seasonal operations, and inadequate integration of supplies. Unemployment in the late twenties remained inexplicably high, while stagnation and labor strife afflicted the cotton textile industry.[59]

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of Waste in its Relation to Labor," April 11, 1925, photoduplicated copy from HHPL. See Walling's sharp attack on these views in *American Labor and American Democracy*, II, 21–23.

[57] Hoover address, November 19, 1920. "Federated American Engineering Societies, 1921," Commerce Papers, HHPL.

[58] Bernstein, *Lean Years* ch. 1; Zieger, *Republicans and Labor*, ch. 11; Lynd and Lynd, *Middletown*, 53–82.

[59] Zieger, *Republicans and Labor*, 234–256; Bernstein, *Lean Years*, 1–43, 115–117.

Conclusion

From his earliest days in office, Hoover had realized that as a busy administrator he could not hope to implement fully or even to define clearly all of his goals. He did think, however, that he could encourage long-range study and information-gathering that would eventually supply data and recommendations for future use. To this end he encouraged the engineering studies of waste in industry and the twelve-hour day. Material developed by the engineers formed part of the investigations of the United States Coal Commission, a body created in 1922 that Hoover hoped would point the way out of the recurrent chaos and crisis in coal mining. Through his direct support the President's Conference on Unemployment, cooperating with the National Bureau of Economic Research, conducted three influential studies, culminating in the publication in 1929 of the two volume *Recent Economic Changes*.[60] In dealing with economic problems in general, all of these investigations bore substantially on the place of labor in American life in the 1920s.

In this tradition, but even more ambitious, was the project begun through Hoover's initiative in the late twenties that resulted in the two volume *Recent Social Trends*. A massive survey of the state of the American people and their institutions as of the late 1920s, this study contained a major segment on labor affairs. It further documented the new affluence of the American worker, emphasizing his remarkable access to education, housing, recreation, and travel.[61] The chapters on labor, written by economists Leo Wolman and Gustav Peck, also commented on changing patterns of worker representation, documenting the decline of the standard unions and the rise of other forms of representation. Wolman and Peck suggested that the present trends might well "end in the disintegration of the labor movement in its present form." Since in their view the trend in society generally was toward democracy and assertiveness, they raised the possibility of "the rise of new labor organizations, radical in purpose and industrial in form." Noting the popularity and success of other means of representation, particularly in larger and more modern factories, the economists also held out the "pos-

[60] For the work and report of the Coal Commission, see Zieger, *Republicans and Labor*, 218–227. Since 1969, I have discovered a larger role for Hoover in the establishment and deliberations of the Commission, based on material in "Coal: USCC," 1922 and 1923, Commerce Papers, HHPL. For the publications stemming from the President's Conference on Unemployment, see Herbert Heaton, *Edwin F. Gay: A Scholar in Action* (Cambridge, Mass., 1952), and "Foreword," in Conference on Unemployment, *Recent Economic Changes*, I.

[61] Barry D. Karl, "Presidential Planning and Social Science Research: Mr. Hoover's Experts," *Perspectives in American History*, III (1969), 347–409; Research Committee on Recent Social Trends, *Recent Social Trends in the United States*, II, 825–829.

sibility that the numerous plant and establishment organizations of labor, created as a rule by the initiative of the employer and surviving by his consent, will be converted by the stress of conditions into independent and autonomous unions which will serve as the nucleus of the Ameircan labor movement in the future." [62]

By the time *Recent Social Trends* appeared, Hoover was an ex-president, unable to use this massive survey directly in the formulation of public policy. But the observations of Wolman and Peck accurately delineated the options available to American workers in the years ahead, options that they would mold into the distinctive features of the American labor movement that they would create in the 1930s. Retrospectively, the economists' remarks also depicted the options available to Hoover in his contemplation of the problem of labor representation in the 1920s. Regarding militancy and radicalism as wasteful and authoritarian, but increasingly aware of the paralysis and obsolesence of the AFL, Hoover implicitly placed his hopes for effective representation in the employee representation plan. When it collapsed under the weight of the Depression and its own limitations, and when American workers chose more aggressive forms of protest, Hoover could only respond with futile invective. As the Depression spelled the end of his particular vision of liberal capitalist society, it also discredited his conception of the role of the worker in this "new economic system."

[62] Wolman and Peck, "Labor Groups in the Social Structure," in *ibid.*, 843.

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The Industrial Politics of the *Kreditbanken*, 1880-1914.*

One of the most durable theories explaining the remarkable rise of German industry in the generation before World War I was that of the critical role of the Kreditbanken, *the great commercial and investment banks of which the Deutsche Bank was the most prominent. Recently, however, historians have begun to question the power of the banks, and even to suggest that they were a drag on German economic development. In this brief study of how Georg Siemens, of the Deutsche Bank, kept the peace between the two leading German electrical equipment manufacturers, Professor Neuburger shows that the crucial factors were not merely the financial strength or weakness of the Bank, but also the diplomatic skill with which its leaders navigated the rapidly shifting currents of the era.*

To those who have sought to explain the rapid growth of the German economy from 1850 to 1913, the *Kreditbanken* have often served as a focal point.[1] The traditional view has emphasized the power of these banks and their central place in industrial development. Of its many versions the most persuasive recasting of the traditional view is that presented in Alexander Gerschenkron's *Economic Backwardness in Historical Perspective*.[2] Without deny-

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[1] A *Kreditbank* combines in one institution the functions of a commercial bank with those of an investment bank. See, Jacob Riesser, *Zur Entwicklungsgeschichte der deutschen Grossbanken mit besonderer Rücksicht auf die Konzentrationsbestrebungen* (Jena, 1906); Otto Jeidels, "Das Verhältnis der deutschen Grossbanken zur Industrie mit besonderer Berücksichtigung der Eisenindustrie," *Staats- und sozialwissenschaftliche Forschungen*, XXII (1905), 1-271; Martin Gehr, "Das Verhältnis zwischen Banken und Industrie in Deutschland seit der Mitte des 19. Jahrhunderts bis zur Bankenkrise von 1931 unter besonderer Berücksichtigung des industriellen Grosskredits," (doctoral dissertation, University of Tübingen, 1959).

[2] Alexander Gerschenkron, *Economic Backwardness in Historical Perspective* (Cambridge, Mass., 1962). Note that Gerschenkron argues that "follower" countries need some special institutional arrangements to overcome initial obstacles to industrialization. In Germany the *Kreditbanken* performed this function. By "substituting" for missing elements (i.e., capital, managerial skills), these banks sped economic growth, according to this view.

ing its original features, one may easily trace Gerschenkron's view to the work of earlier scholars including Jacob Riesser, Gerhard von Schulze-Gaevernitz, and Rudolf Hilferding.[3] What such work emphasizes most heavily is the extent to which the *Kreditbanken* provided or helped to raise industrial capital.

The best known and most influential of these earlier interpretations is that in Hilferding's *Das Finanzkapital.* In his chapter on "Banks and Industrial Credit," Hilferding explains that once industry begins to use bank credit for fixed capital (*Produktionskapital*), firms and banks become increasingly interdependent. His analysis makes clear that at such a stage, "the banks usually have the stronger part in this relationship."[4] The character of this relationship at a more advanced stage is treated in Hilferding's chapter on "The Capitalist Monopolies and the Banks." In pursuit of both stability and higher profits, the banks, it is claimed, use their power to encourage the formation of trusts and cartels. The strength of these new institutions soon rivals that of the banks, but conflict between these two centers of power does not result. Instead, increasing concentration of the ownership of capital brings about an increasing identity of interests in which "*Finanzkapital* reaches its highest level of power."[5] All industries do not necessarily, reach this advanced stage of bank-industry relations at the same time. The arrival at this stage of the relatively older German heavy industries (e.g., coal, steel, chemicals) is usually placed in the mid-1890s, and about a decade later in the German electrical industry. In the course of this transition the banks are thought to have given up their pioneering (i.e., developmental) functions and to have become "weaker" *vis-à-vis* industry.

Recent work on the role of the *Kreditbanken* in this era has taken a new tack, suggesting either that throughout the period these banks were weaker and less important as stimulants of economic growth or that they were influential but considerably less successful growth-inducing agents than had previously been thought. An econometric treatment of this question has offered evidence that the *Kreditbanken* actually constrained economic growth during the years 1883 to 1913.[6] In his work on the corporation and cor-

[3] Riesser, *Zur Entwicklungsgeschichte*; Rudolf Hilferding, *Das Finanzkapital* (Vienna, 1923); and Gerhard von Schulze-Gaevernitz, *Grundriss der Sozialökonomik, V Abteilung, II Teil, Die deutsche Kreditbank* (Tübingen, 1922).

[4] Hilferding, *Das Finanzkapital*, 96.

[5] *Ibid.*, 283 284.

[6] H. Neuburger and H. H. Stokes, "German Banks and German Growth, 1883-1913: An Empirical View," *Journal of Economic History*, XXXIV (1974), 710-731; H. Neuburger and H. H. Stokes, "German Baking and Japanese Banking: A Comparative Analysis," *Journal of Economic History*, XXV (1975), 238 252.

porate bureaucracy during industrialization (based largely on the archives of the Siemens electrical firm), Jürgen Kocka has devoted much attention to the relations of Siemens and its principal bank, the Deutsche Bank.[7] Kocka's subtle characterization of these relations leaves the distinct impression that in this case the firm (i.e., the Siemens family) and not the bank had the upper hand and that the Deutsche Bank played a useful but hardly indispensable role in Siemens' development. Under the terms of such banker-client relationships, *Kreditbanken* were obliged to provide their clients with short-term loans (ostensibly working capital) and to manage securities issues to obtain long-term, investment capital; in many cases bankers also offered their clients commercial and managerial advice. It is the stress on the power that the performance of these services is supposed to have given banks to which Kocka objects. Knut Borchardt's recent essay on German industrialization is written in a similar vein.[8] Borchardt argues that the role of the *Kreditbanken* has been exaggerated and that attention has "gravitated mistakenly towards an almost exclusive preoccupation with the joint stock banks." [9]

There can be no doubt that the traditional consensus about the *Kreditbanken* has broken down. As yet, nothing has taken its place. While a comprehensive reinterpretation of this question will depend upon the richness of the archives now being explored, there is a need for a point of departure to guide such work.

The conceptual framework of diplomacy offers the historian several advantages.[10] Such a framework highlights the banks' activities as representatives or intermediaries among the various industrial interests they served. Moreover, no difficulty arises when one introduces the notion of bank interests distinct from those of the firms with which the banks dealt. The chief advantage of employing the framework of diplomacy to analyze the role of the *Kreditbanken* is that diplomatic maneuver is quite a close analogue to market relations under oligopoly conditions. Finally, this framework does not exclude the social and political influences on banking practice, influences that might be ignored if the *Kreditbanken* were examined only from the perspective of economic theory.

[7] Jürgen Kocka, *Unternehmensverwaltung und Angestelltenschaft am Beispiel Siemens, 1847–1914* (Stuttgart, 1969), 429.

[8] Knut Borchardt, "The Industrial Revolution in Germany 1700–1914," in *The Fontana Economic History of Europe* (London, 1973), 150.

[9] *Ibid.*, 150.

[10] A multi-polar model would presumably be most useful. For a discussion of some interesting approaches, see, Morton A. Kaplan, ed., *New Approaches to International Relations* (New York, 1968).

THE DEUTSCHE BANK AND THE ELECTRICAL INDUSTRY

We will examine the involvement of the Deutsche Bank in the electrical industry, with particular emphasis on the two most important German electrical firms, Siemens & Halske and the Allgemeine Elektricitäts-Gesellschaft (A.E.G.).[11] Siemens & Halske was organized as a partnership in 1847 with an initial capital of 6,843 Prussian thalers provided by a silent partner who was also a cousin of the founder, Werner Siemens. The early growth of the firm was financed by retained earnings derived mainly from the installation of telegraph lines and the manufacture of cable and equipment for them. A second stage in the firm's development began in 1866 with Werner Siemens' discovery of the principles governing electric power generation. The application of these principles required the solution of numerous technical problems, so that the commercial exploitation of electric power generation for such uses as electric lighting and transportation was delayed until the 1880s. Estimates of the total capital of the firm indicate that it was growing rapidly throughout this period. According to a study by E. Waller cited by Kocka, the capital of Siemens & Halske (including foreign subsidiaries) increased from 4,173,000 marks in 1860 to 23,404,812 marks in 1880 and to 47,233,860 marks in 1889.[12] The share of the Siemens family (*Eigenkapital*) climbed from 60 per cent in 1860 to 74 per cent in 1880, revealing that reinvestment of profits occurred on a large scale. Siemens & Halske became a joint-stock company in 1897 with a share capital of 35,000,000 marks, but all shares remained in the possession of the Siemens family. By 1900 the company's share capital had grown to 54,500,000 marks, which, when added to its debt and reserves, gave it a total capital of 94,000,000 marks.[13] The firm continued to grow and to prosper until 1914.

Unlike Siemens & Halske, the A.E.G. (originally called the Deutsche Edison Gesellschaft) depended upon bank financial support from its inception. After examining some of Edison's electric lighting equipment at the Paris Exhibition of 1881, Emil Rathenau convinced a group of bankers to provide him with 250,000 marks to found an exploratory company (*Studiengesellschaft*) whose objects were experimentation with carbon filament light bulbs and

[11] Among the most useful references concerning these companies are Georg Siemens, *History of the House of Siemens*, trans. A. F. Rodger, Vol. I (Freiburg/Munich, 1957); and Felix Pinner, *Emil Rathenau und das elektrische Zeitalter* (Leipzig, 1918).

[12] Kocka, *Unternehmensverwaltung*, 567.

[13] Emil Kreller, "Die Entwicklung der deutschen elektrotechnischen Industrie und ihre Aussichten auf dem Weltmarkt," *Staats- und sozialwissenschaftliche Forschungen*, XXII (1903), 21–22.

creation of a favorable public image by means of small pilot projects. The enthusiastic public response to these efforts enabled Rathenau to persuade Jacob Landau of Berlin, Gebrüder Sulzbach of Frankfurt am Main, and the Nationalbank für Deutschland of Berlin to support the founding of the Deutsche Edison Gesellschaft in 1883. The share capital of the new company was 5,000,000 marks. A contract signed at the firm's founding gave it (and Siemens & Halske) exclusive rights to the Edison patents in Germany. In another provision, Rathenau's company promised to produce only carbon filament light bulbs and to purchase all other electrical equipment it required from Siemens & Halske who agreed in turn, not to build any central power stations. This combination of Edison patent rights and a contractually regulated relationship with Germany's strongest electrical firm must surely have helped Rathenau to win his bankers' support.

The Deutsche Edison Gesellschaft's first four years were years of technological success but financial and legal difficulty. Efforts to defend its patent rights proved unavailing and its agreement with Siemens & Halske gave rise to serious conflicts between the two firms. Furthermore, the construction of central power stations placed a barely tolerable strain on the firm's finances. These problems were resolved in 1887. The company terminated its relations with the owner of the Edison patent rights for Europe, the Compagnie Continentale Edison of Paris, won a revision of its agreement with Siemens & Halske, and obtained an infusion of capital from a new group of banks including the Deutsche Bank, the Schaafhausen'scher Bankverein, the Discontogesellschaft, and others. As a part of these rearrangements, the name of the company was changed to the Allgemeine Elektricitäts-Gesellschaft. The record of expansion of the firm's capital gives some impression of its rapid growth after these rearrangements were accomplished. To its original 5,000,000 marks the A.E.G. added 7,000,000 marks in 1888, 4,000,000 marks in both 1889 and 1890, 2,000,000 marks in 1895, 3,000,000 marks in 1896, 10,000,000 marks in 1897, 12,000,000 marks in 1898, and 13,000,000 marks in 1899, reaching a total of 60,000,000 marks share capital in that year. By 1899, its reserves had risen to 28,500,000 marks and its debt to about the same amount, so that the A.E.G. was employing a total capital of approximately 117,000,000 marks.[14] The firm's success continued throughout the pre-war era.

What makes the involvement of the Deutsche Bank with the

[14] Ibid., 15.

A.E.G. and Siemens & Halske interesting is that the bank had close ties to both firms. Georg von Siemens, a cousin and former employee of Werner Siemens and son of Werner's original silent partner, was a leading figure in the Deutsche Bank since its inception in 1870. The bank, in turn, played an important role in the rearrangements that established the A.E.G. This close association with both firms gave the Deutsche Bank a pivotal position in the electrical industry.

The Bank's Financial Services

The principal field in which banks represented and advised industrial firms was, of course, finance (both long-term and short-term). The issuing of securities was a central aspect of such financial assistance. Of critical importance in such securities issues were the composition of the issuing syndicate of banks and the quotas of the various members. The correspondence between the bank and Siemens & Halske concerning an 1898 bond issue which the bank managed for that firm reveals the careful judgments upon which agreement had to be reached before such a bond issue could take place.

Arthur von Gwinner, a director of the Deutsche Bank, first presented the bank's plan for the issue to Tonio Bödiker of the Siemens & Halske executive committee (*Vorstand*). Because Siemens & Halske was an established firm with an excellent reputation, its securities were much in demand. In such circumstances, other banks could be expected to clamor for blocks of securities so that the chief task of the Deutsche Bank in planning the issue was to allocate shares among those banks that were deemed suitable for membership in the consortium. In presenting the plan, Gwinner noted that the Discontogesellschaft had accepted a full share in the issue in which, "in the interests of Siemens & Halske," he took great pleasure. In deference to the wishes of the Discontogesellschaft, he intended to give a half share to the Norddeutsche Bank of Hamburg, which he described as "one of the most important provincial German banks." [15] A request by the Discontogesellschaft that another provincial bank be given a half share was refused because the provincial bank in question was not considered prominent enough. The relative strength and prestige of the various banks mentioned was the focus of these remarks. Additional considerations came into play in re-

[15] Letter from Gwinner to Bödiker, March 31, 1898, Deutsche Bank, Historisches Archiv, Frankfurt am Main (Siemens and A.E.G. files).

marks concerning the Darmstädter Bank. Gwinner pointed out that since other banks of the "Union group," the banks that belonged to the consortium that issued the securities of the Union Electric Company, had been included, it would have been an insult not to include the Darmstädter. With the characteristic subtlety of the banker, he called attention to the "considerable influence of this bank with the Berlin municipal government." Prudence required that good relations be maintained with those banks whose good will could be helpful to Siemens & Halske.

Where such benefit could not be expected, a different response was called for. Gwinner proposed that the banking firm of Delbrück, Leo and Company, which received a full share in the previous Siemens & Halske consortium of 1893, be limited to three-quarters of a share in the new consortium. He did so because Delbrück, Leo and Company had associated itself with a competing group under terms that Gwinner found objectionable.[16] Bödiker's reply indicates that only on this point did he disagree on the ground that "Herr Delbrück, who has had business ties with our house for many years, would very gladly show himself to be friendly to our house [if given a full share]."[17] Gwinner's tart reply clarified the question. "I do not doubt the willingness of D. L. & Co. to show themselves friendly to Siemens & Halske, but their ability," he wrote, "since they are contractually bound to deal exclusively with A.E.G. in the electrical field."[18] The original distribution proposed by the Deutsche Bank was accepted and the bonds were issued as planned. In June 1898, Gwinner was able to report that the Siemens & Halske bonds had been placed satisfactorily. Only one minor difficulty was reported when Delbrück, Leo and Company offered the bonds below the daily closing price by printed circular, an action that could "discredit them in the eyes of the public." The Deutsche Bank took steps to end this disruptive practice immediately.

A careful balancing of interests characterized the Deutsche Bank's financial services to Siemens & Halske, for tactful but firm diplomacy was needed to prevent the company from incurring the disfavor of strong banks or from being harmed by questionable practices of weak ones. Without its financial strength, the Deutsche Bank could not have managed with success a securities issue like that of Siemens & Halske, but more than financial strength was required. The directors of the Deutsche Bank had to know the political and financial

[16] Gwinner objected to the exclusive aspect of the agreement that Delbrück, Leo and Co. had made with the A.E.G.

[17] Letter from Bödiker to Gwinner, April 1, 1898.

[18] Letter from Gwinner to Bödiker, April 2, 1898.

potency of other banks and electrical firms as well as the present status of ties among them. The financial strength of the Deutsche Bank and the superior sources of information of its directors enabled them to be helpful to Siemens & Halske in performing other less publicized financial services, especially in the delicate negotiations that mergers required.

Merger Negotiations

Immediately after the turn of the century, the German electrical industry entered a period of severe crisis. Of the seven firms, or more accurately groups of firms, in the industry, one collapsed and the remainder began to consider mergers.[19] The merger negotiations were extremely complex, rather like dynastic marriage politics with the various banking groups taking the roles of family members whose endorsement was needed to make a match. An item from the minutes of the February 11, 1902, meeting of the Board of Directors of Siemens & Halske shows that a merger between the A.E.G. and Schuckert groups was under consideration, leaving open the possibility that Siemens & Halske would later join in. The final realignment of the electrical industry was along entirely different lines, and the reasons may be traced in several cryptic notes pencilled in at the bottom of the Deutsche Bank's copy of the minutes pertaining to the merger discussion:

> for us a combination with the A.E.G. would be much easier than one with the Union with whose bankers close cooperation has always proved impossible.
>
> Steinthal
>
> but Rath[enau] thinks so much more of himself than of all the others including S & H [Siemens & Halske] that an understanding would hardly be possible, rather with Loewe.
>
> M[anciewicz]
>
> I see the value of an understanding with Loewe only from the negative side.
>
> Gw[inner] [20]

Each of these men was a director of the Deutsche Bank. It is evident from their comments that a consensus of bank and electrical

[19] These groups were the Siemens and Halske group, the A.E.G. group, the Schuckert group, the Union (or Loewe) group, the Helios group, the Lahmeyer group, and the Kummer group. Of these, the first four were the major forces of the industry. For a useful account of events in the electrical industry during this period, see, G. Siemens, *History*, Vol. I, 194–197.

[20] Siemens and Halske, Minutes of the February 11, 1902 Board of Directors meeting.

company representatives could not be obtained in favor of either of the alliances mentioned.

The banks were in no position to dictate a merger policy to the industry. In any case, one did not dictate to either the Siemens family or to Emil Rathenau. On the other hand, the realignment of the industry that followed in 1903, the merger of the A.E.G. and Union groups and the partial merger of Siemens and Schuckert, is the only outcome left open by the notes quoted above. What this fact suggests is that the authors of those notes had a keen understanding of the individuals and institutions concerned and were quite helpful in resolving the crisis in the electrical industry. When Wilhelm von Siemens wanted to approach the Schuckert firm, Ludwig Roland-Lücke, the Deutsche Bank representative on the Siemens & Halske board, acted as his intermediary.[21] After the two firms agreed upon terms, the Deutsche Bank showed its support by rounding up 2,500,000 marks worth of Schuckert shares, the votes of which were used to approve the Siemens-Schuckert plan.[22] In the arrangement that resulted, the interests of both Siemens & Halske and those of the Deutsche Bank were well served.

The Bank as Mediator

The relationship between Siemens & Halske and the Deutsche Bank was not always an untroubled as these examples might suggest. When the advice of the Deutsche Bank directors ranged beyond narrow financial matters, serious tensions arose. Bankers like Georg Siemens saw in Siemens & Halske a corporation to be evaluated by, and certainly to be guided by, the ordinary measures of commercial success: profits, dividends, and market share. The Siemens family, as represented by Wilhelm von Siemens, combined with such commercial criteria its concern for the preservation of family control and tradition.[23] These differences in orientation led to sharp conflicts between Deutsche Bank directors (and some officers of Siemens & Halske with similar views) and the Siemens family. By retaining a majority of the firm's shares, the Siemens family had assured itself control of the firm, so that there was no doubt who would have the last word. Even under these circumstances, the Deutsche Bank urged its views vigorously first on Werner, later on Wilhelm, von Siemens.

The Deutsche Bank favored centralization of control of the Sie-

[21] Kocka, *Unternehmensverwaltung*, 323–327.
[22] Letter from Wilhelm von Siemens to Roland-Lücke, August 24, 1903.
[23] See Kocka, *Unternehmens verwaltung*, 396 ff. for a good discussion of this conflict.

mens bureaucracy by the executive committee and rationalization of bureaucratic procedure within the firm so that such control would be assured. The bank also sought to make effective the legally established supervisory powers of the board of directors (*Aufsichtsrat*), powers that were routinely circumvented at Siemens & Halske. Because the Deutsche Bank and other banks with which it worked closely were well represented on the Siemens & Halske board, strengthening the board's powers would increase the influence of the banks. Seeing in such an approach a threat to family prerogatives, Wilhelm von Siemens opposed such measures unless their introduction left power securely in his hands. One well-documented incident, in which the issues at the root of the conflict are easily recognized, concerned the tenure of Alfred Berliner, the director of Siemens-Schuckert Works and one of the ablest Siemens officers.[24] Berliner wanted his authority as chief executive of Siemens-Schuckert better delineated and protected from the interference of Wilhelm von Siemens, the chairman of the board of directors. The Deutsche Bank director on the board of Siemens & Halske, Roland-Lücke, supported Berliner, and both men threatened to resign if the matter were not resolved in Berliner's favor.[25] Wilhelm von Siemens took Roland-Lücke's threat seriously because such a resignation would have been sure to stimulate undesirable speculation in the financial press. So great was public concern with the state of the bank's relations with the firm that determined efforts were made by Siemens to avoid an overt sign of disagreement.

Siemens responded to the threat with an earnest letter presenting his side of the dispute to Roland-Lücke. Explaining Berliner's claim, Siemens wrote: "B's [Berliner's] theory is basically that a unified leadership of the firm is impossible as a consequence of the influence that I exercise on the operations of the management. In spite of my explanations to the contrary, you have become convinced during a conversation with B. that due to my influence the head of management cannot have the quick, appropriate control that a proper initiative requires."[26] This argument was dismissed by Siemens who attributed the problem to a personality clash. Roland-Lücke's tactful reply argued that Siemens could remain a strong board chairman:

> without making impossible unified, capable, and responsive leadership by the executive committee and a general director. Naturally such a man-

[24] For an interesting description of Alfred Berliner, see G. Siemens, *History* Vol. I, 321-322.

[25] Berliner wanted to be appointed *Generaldirector* of the firm.

[26] Letter from Wilhelm von Siemens to Roland-Lücke, December 1, 1906.

agement would be obliged to conduct the firm's affairs with the constant agreement of the chairman of the board in more important matters. In contrast to the present situation only one distinction need be introduced. Communications or wishes which the chairman makes known to one or another member of the management as an expression of close collaboration should immediately and voluntarily be made known to the focal point of the management, the general director. In this way unified operations will be insured. . . .[27]

The disagreement was resolved in a compromise in which Wilhelm von Siemens' authority remained intact.[28] This incident illustrates the willingness of Deutsche Bank directors to mediate not only between Siemens & Halske and other firms or banks but also between Siemens & Halske's managers and the Siemens family. Roland-Lücke's care in attempting to balance the interests of all concerned is also evident.

This kind of discreet maneuvering by Roland-Lücke and other Deutsche Bank directors can be interpreted as weakness on the part of the bank.[29] Yet strength and weakness are relative terms. The banks were indeed weak when judged by faulty estimates of their strength derived from the traditional interpretation of the bank's role. The proper standard upon which such a judgment should be based is the effectiveness of the banks in performing their major functions. It was the banks' principal task to provide credit and advice, not to dictate policies to the firms the bank served. If the strength of the banks is judged from this more realistic perspective, the strength of the banks in performing the essential functions of banking becomes apparent.[30] Another look at the relations of the Deutsche Bank and Siemens & Halske will help to clarify this point.

It is a commonplace of banking that the liquidity position of short-term borrowers bears close watching. The danger of a liquidity crisis is that the funds to repay a short-term bank loan may be wanting when the loan comes due. The record suggests that Siemens & Halske experienced such a crisis in 1901 and the response of the Deutsche Bank was firm. An account of the crisis was given in a 1903 letter of Wilhelm von Siemens that dealt with the firm's savings program for employees. Siemens wrote:

. . . I was urgently requested to come to the Deutsche Bank, and I believe that the entire *Direktion* of the Deutsche Bank was gathered there.

[27] Letter from Roland-Lücke to Wilhelm von Siemens, December 3, 1906.
[28] Kocka, *Unternehmensverwaltung*, 454 455.
[29] Ibid., 429 ff.
[30] In fact, a comparison of the strength of the *Kreditbanken* with that of the banks of other advanced countries in this era would certainly not place the *Kreditbanken* on the weaker end of the spectrum.

> My deceased cousin [Georg Siemens] told me that our company did not have enough money and asked how it should be raised. Herr Gwinner judged that we needed 5 to 6 million. It was not possible to issue shares or bonds and under no circumstances could we count on the Deutsche Bank to advance us the money. I answered that for a comfortable and financially strong position there were indeed several millions lacking. But I believed that at the present time we would get by and certainly not be obliged, at least for the time being, to approach the banks. My comments were received with great skepticism and my family was required to obligate itself for two years to lend the firm its last dividend of ten per cent.[31]

It is not clear why Wilhelm von Siemens thought that the Deutsche Bank would allow his firm's liquidity position to worsen and would then accept the risk itself. Any such illusions on his part were quickly dispelled when the bank held Siemens & Halske to the rules of good financial practice. Certainly no question of weakness on the part of the bank arises in considering this incident. It is also noteworthy that the crisis was surmounted without causing the Siemens firm any embarrassment.

While bank influence most commonly made itself felt in the financial and managerial policies of Siemens & Halske, this influence could be detected in other fields as well. Moreover, the bank's influence was not always used in a restrictive way. When in the Deutsche Bank directors' view Siemens & Halske was treated unfairly by purchasers of the firm's products, the directors might well find a way to intervene in order to defend Siemens' interests. Just such a situation developed during the winter of 1913–1914. An informal agreement had apparently been worked out according to which Siemens & Halske and the A.E.G. were to share evenly the contracts being granted by the Constantinople Tramways Company. To the former firm's surprise, the agents to the latter won all of the electric motor contracts. The maneuver was apparently based on a false allegation of technical problems in Siemens' motors. Siemens & Halske was incensed at the loss of the contracts, not only because of their monetary value, but also because of the implied challenge to the firm's technical competence. Lacking any other recourse Siemens & Halske appealed to Elkan Heinemann, the representatives of the Deutsche Bank on the Siemens board at that time.

In this case the Deutsche Bank had especially good channels through which to make its influence felt. The Constantinople project was being financed by the Société Financière de Transports et d'Entreprises Industrielles of Brussels, one of whose leading figures,

[31] Letter from Wilhelm von Siemens to Roland-Lücke, August 15, 1902.

D. Heineman, had worked in close collaboration with the Deutsche Bank for many years in the Deutsche Uberseeische Elektricitäts-Gesellschaft. E. Heinemann sent a telegram to D. Heineman protesting the exclusion of Siemens from the motor contracts and followed up with a strongly worded letter supporting Siemens' position and defending its technical competence. E. Heinemann pointed out that: "the Siemens-Schuckert Works could not possibly allow itself to be denied contracts for motors. . . . Also considering the matter from the standpoint of the Deutsche Bank, I must make the friendly request that you see to it that the Siemens-Schuckert Works is not unfairly treated." [32] In spite of these efforts, the response from Brussels included only temporizing and excuses.

The Deutsche Bank could not be put off with such temporizing. E. Heinemann sent to Brussels an even more pointedly worded letter repeating Siemens' case and providing technical information and an engineer's report to support it. A technical report from Constantinople confirmed the adequacy of the Siemens motors, but the results of these tests were questioned and a second series of tests were conducted with the same result. On March 6, D. Heineman informed the Deutsche Bank that the motor contracts were to be divided equally between the A.E.G. and Siemens & Halske. It is doubtful that technical factors alone prompted this decision. Although the record offers no certainty on this point, there is reason to suspect that the Deutsche Bank gave the Société Financière a disturbing example of the future treatment its interests could receive, if the Société Financière did not respect Siemens' interests in this affair. In his letter of thanks to Brussels, E. Heinemann wrote:

> I want to thank you for your friendly efforts in this matter.
>
> I would also like to take this opportunity to mention that the Banco Aleman Transatlantico in Barcelona has decided after further consideration that it will agree after all to an extension of its 100,000 peso loan to the streetcar company. This is being done because the company has again explained that it would find such an extension extremely valuable in view of negotiations to be conducted with the gentlemen concerned.[33]

What this letter suggests is that the Deutsche Bank had used its influence with a bank in Barcelona to have a sizeable, and possibly badly needed, credit withdrawn from a company in which the Société Financière had an interest and, after the Société Financière had arranged the Turkish motor contracts in a way that the Deutsche Bank found satisfactory, had the credit reinstated.

[32] Letter from E. Heinemann to D. Heineman in Brussels, February 4, 1914.
[33] Letter from E. Heinemann to D. Heineman in Brussels, March 9, 1914.

Limits of the Bank's Influence

Although the Deutsche Bank could make its influence felt through small gestures like the one just described, no hasty conclusions should be drawn from it. The use of bank influence was subject to severe limitations, some obvious, others less so. Obvious limitations included potential or actual government regulation and keen competition among bankers.[34] A less obvious limitation was the bank's strong commitment to the most efficient and profitable operation of the firms the banks served. Actions that failed to honor that commitment could discredit the bank in the eyes of management, shareholders, and, ultimately, the general public as well.[35] A watchful financial press was most eager to uncover any such questionable conduct. The effectiveness of this limitation is illustrated by an episode rather like the dispute about electric motor contracts. The Deutsche Bank had had close relations with the Mannesmann Works, a major German metallurgical concern, ever since the firm's founding. Because of this connection, Alfred Berliner (of Siemens-Schuckert) thought that Siemens had the favored position to obtain Mannesmann's electrical contracts. When in the spring of 1905 a major turbine contract went to a competitor, Berliner became very irritated and expressed his irritation in several very candid letters to Roland-Lücke.

The main issue that Berliner raised in this correspondence was the extent to which the Deutsche Bank was obligated to direct contracts for electrical equipment to Siemens & Halske. Berliner's interpretation of this obligation went very far indeed: "I don't want to close this letter without making you aware of the fact that we are still bound to the Deutsche Bank by a contractual relationship. And the Deutsche Bank has the duty to help us obtain business in every way and not, as in the preceding case, to allow the competition to win business that a stroke of the pen would have given to us."[36] A second letter continued in the same vein, noting that "we regret terribly that the Mannesmann Works shows so little concern for the relations that exist between you and us."[37] For the bank such an understanding of these relations went a good deal too far. The

[34] The Bank Enquete of 1908 is evidence of parliamentary concern for possible abuses in banking.

[35] The Deutsche Bank often issued and sold the shares of firms it served. As a prominent underwriter of such issues, the bank assumed a tacit responsibility for the proper conduct of the firm's affairs. Supporting any action not in the best interests of the firm would have been perceived as a betrayal of the firm's shareholders. If two client firms of the bank came into conflict, the bank was expected to avoid taking sides or to terminate relations with one of the parties.

[36] Letter from Berliner to Roland-Lücke, May 24, 1905.

[37] Letter from Berliner to Klönne, May 24, 1905.

Deutsche Bank directors knew that they and not those of Siemens & Halske were the proper judges of what support could have been and ought to have been given that firm, and the bank reacted accordingly.

The bank's response emphasized the limits of its influence in such situations. After investigating the granting of the contract, Roland-Lücke reported that Mannesmann's decision was based on technical factors but that he assumed that a poor sales effort by Siemens & Halske was also to blame. He added that "on the side of the Deutsche Bank everything has been done which can be done in such cases; coercion [*Diktieren*] of the sort you take for granted is not possible."[38] Concerning the "contractual relationship" between bank and firm, Roland-Lücke noted that Berliner's interpretation of that relationship was not acceptable and that he and his colleagues were considering the termination of this contractual relationship because they could not approve Berliner's view.[39] Berliner backed down immediately, replying that his remarks had not been interpreted as he had intended. Claiming that he understood that the Deutsche Bank could not guarantee Siemens the electrical contracts of every firm with which the bank was friendly, Berliner maintained that he had merely wanted to help in winning technically challenging contracts.[40] In his reply to Roland-Lücke, Berliner also noted that the firm from which the turbine had been ordered had recently made sizeable purchases from Mannesmann, raising the possibility that some sort of reciprocal arrangement was involved. Berliner's effort however was not entirely wasted, since Siemens did obtain some less important Mannesmann contracts. It appears that the Deutsche Bank, in a characteristic exercise of its diplomatic function, saw to it that the resolution of the dispute reflected the interests of all concerned. The Deutsche Bank also used the incident to demonstrate that there were definite limits beyond which it would not go in assisting friendly firms and that the bank determined where those limits lay.

Keeping Peace in the Electrical Industry

These incidents suggest that efforts at explaining the role of the *Kreditbanken* should focus not on the strength or weakness of these banks *vis-à-vis* industrial firms but rather on the character of the services performed by the banks for such firms. Besides its more

[38] Letter from Roland-Lücke to Berliner, May 27, 1905.
[39] Letter from Berliner to Roland-Lücke, May 24, 1905.
[40] Letter from Berliner to Roland-Lücke, May 27, 1905.

routine financial services, the greatest service which the Deutsche Bank performed in the course of its involvement with the electrical industry was in fact keeping the peace.[41] As noted earlier, the A.E.G., or rather its predecessor the Deutsche Edison Gesellschaft, began its existence as a stepchild of Siemens & Halske. The two firms were bound together by a ten-year contract which resolved patent conflicts, gave the A.E.G. precedence in the building of central power stations, and obligated the A.E.G. to purchase most of its heavy equipment (e.g., dynamos and cable) from Siemens & Halske. Although drastically revised in 1887, this contract gave rise to intense friction and disagreement between the parties.[42] Such tension put Georg Siemens in a very difficult position. The Deutsche Bank was the leader of the syndicate for the issue of A.E.G. securities and Georg Siemens was first a prominent member and then (from 1889 until 1896) the chairman of the A.E.G. board of directors. At the same time Georg Siemens had close personal, family and professional ties to Siemens & Halske. What was his proper role?

In a letter to Georg Siemens written at the time that the troublesome contract between the two firms was finally being terminated, Emil Rathenau described Siemens as an "honest broker" (*ehrlicher Makler*").[43] Rathenau was surely among those best placed to make such a judgment, and Siemens' correspondence with others fully supports Rathenau's view. How faithfully Georg Siemens played this role is illustrated by an 1888 letter from Siemens to Henry Villard, an American financier in whom Siemens often confided: "The conflict between Siemens & Halske and the General Electric Company [A.E.G.] becomes sharper and sharper and cooperation between the two more and more problematical. To my regret the fault appears to be to a great degree on the side of Siemens & Halske."[44] Family ties did not obscure Siemens' view of his relatives' faults or confuse his judgment of the merits and weaknesses of their case. He did his discreet best to make each side consider the position of the other. Yet the seemingly endless quarreling that he witnessed must have tried his patience. His correspondence often betrays more than a hint of frustration: "It is a pity that face to face dealings are so difficult between you two [Rathenau and

[41] For a good discussion of Georg Siemens' career and some interesting excerpts from his letters, see, Karl Helfferich, *Georg von Siemens* (Berlin, 1923); also see, G. Siemens, *History*, Vol. I.

[42] For an explanation of this problem and its resolution, see, F. Pinner, *Emil Rathenau*, 146-154.

[43] Letter from Rathenau to Georg Siemens, May 19, 1894.

[44] Letter from Georg Siemens to Henry Villard in Eisenach, June 11, 1888.

Werner von Siemens]. I believe that a conversation could be quite helpful. I lack any knowledge of technical matters and the 'pre-history,' so that I am not able to distinguish the essential from the non-essential. I am even afraid that I am not useful enough as a broker between the parties." [45] Given the obstacles he faced, Georg Siemens was not merely useful; he was astonishingly successful in maintaining a degree of peace that allowed the German electrical industry to prosper.

The record of Georg Siemens' dealing with Rathenau offers ironic testimony to this success. During the late 1880s when the A.E.G. was gravely threatened by the actions of Siemens & Halske, Georg Siemens fought tirelessly to keep Rathenau's firm afloat. The letters of Georg Siemens to his cousin Werner contain frequent references to a possible failure of the A.E.G. Such a failure, Georg Siemens argued, would do Siemens & Halske no good. Rather, "a failure of the company [A.E.G.] will be blamed finally on you [Werner von Siemens], Delbrück and me . . . the publicity will of course first focus on you." [46] These telling arguments had the intended effect, and the compromise fashioned almost single-handedly by Georg Siemens was accepted by all parties. In the absence of such a compromise it is quite possible that the A.E.G. would have failed.

Far from a being failure, Rathenau was a brilliant and remarkable success. By the latter half of the 1890s, Georg Siemens' correspondence concerning Rathenau took on a decidedly different tone: "R's [Rathenau's] ambition is to gather around himself the greatest possible number of bankers and to withdraw them from the competition. Therefore he requires from bankers that they bind themselves to him irrevocably for six years." [47] From the point of view of the Deutsche Bank, Rathenau's plan to form a securities consortium was entirely unacceptable. With a display of his familiar diplomatic skill, Georg Siemens persuaded Rathenau to eliminate the objectionable exclusivity provision from Rathenau's proposal. A mere decade earlier Siemens had been fighting to keep Rathenau's firm alive; now Siemens was maneuvering to prevent Rathenau from obtaining unreasonable concessions from the Deutsche Bank.

When it came to direct clashes between men of the stature of Werner von Siemens and Emil Rathenau, the true limitations of the influence of the Deutsche Bank emerged most clearly. Straining his every resource, a banker as gifted as Georg Siemens was barely able to keep the peace. His was the role of mediator. Such stability

[45] Letter from Georg Siemens to Werner von Siemens, June 12, 1888.
[46] Letter from Georg Siemens to Werner von Siemens, May 18, 1888.
[47] Letter from Georg Siemens to Henri Abegg in Zurich, December 26, 1896.

as existed in the electrical industry in its critical early years was due in no small measure to his efforts.

Conclusion

Although the success of Siemens' efforts depended on the power of the institution he represented as well as his personal gifts, an understanding of the place of the *Kreditbanken* is not well served by defining their role in terms of strength or weakness. Strength alone did not make of the *Kreditbanken* successful or effective institutions. What is needed is a careful examination of the functions of the *Kreditbanken* and, in particular, of the non-financial functions. It is with the careers of bankers like Georg Siemens and others of the first generation of *Kreditbanken* leaders that such an examination should begin. Whether or not the evidence uncovered will support such broad interpretations as those of Hilferding and Gerschenkron remains to be seen. The evidence offered above suggests, however, that naive versions of Hilferding's view, which characterize emerging German industrial capitalism as a "dictatorship of the banks," will be of little value. In the ongoing reinterpretation of the banks' role in German industrial development both Hilferding and Gerschenkron must be given a fair test. In doing so it will be especially productive to analyze the bankers' mediation among the various interests that contributed to German economic development before World War I.

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Research, Patents, and the Struggle to Control Radio: A Study of Big Business and the Uses of Industrial Research.*

The advent of high-technology industries around the turn of the century created the modern industrial research department and placed a new emphasis upon the search for patentable innovations. While some of this research led to advances in basic scientific knowledge, and much of it produced product or process improvements that were directly applicable to a firm's business, a great deal was undertaken to enhance firms' bargaining powers with each other in order to preserve monopoly positions. In the early years of radio, the structure of the industry changed repeatedly with every innovation in apparatus or circuitry, a situation that led, as Professor Reich shows, to heavy investment in "non-productive" research.

What is the relationship of scientific research and technological advance to industrial innovation? Over the past twenty-five to thirty years a substantial beginning has been made toward a better understanding of this problem.[1] A number of historical works have shown that, while many factors are involved in the evolution and ultimate control of markets, the use of scientific knowledge and technical advance, often well-protected by patents, has taken on considerable importance during the last century. Changing technology has played a substantial role in businessmen's attempts to control their markets and thus to secure their own corporate destinies. Therefore, to comprehend corporate relationships to markets it has become necessary in many cases to know how technical advances were affected and how they were used commercially.

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* I am indebted to Professor Louis Galambos for much helpful criticism during the writing of this article.

[1] See, W. Rupert Maclaurin, *Invention and Innovation in the Radio Industry* (New York, 1949); Harold Passer, *The Electrical Manufacturers, 1875–1900* (Cambridge, Mass., 1953); John Enos, *Petroleum Progress and Profits* (Cambridge, Mass., 1962); Thomas Hughes, *Elmer Sperry, Inventor and Engineer* (Baltimore, 1971); and Reese Jenkins, *Images and Enterprise* (Baltimore, 1975).

This article seeks to understand this process by considering how research and development work at several industrial laboratories was employed in the struggle to control the emerging radio market from World War I to 1926. Corporate strategies and conceptions of markets were important factors in the competition, to be sure, but most often, holding the right patents at the right time turned out to be the key to success. I will show that several companies were able to use their research-generated patents to control markets by often circuitous routes, such as trading of particular patent rights to potential competitors. Such findings would indicate that industrial research has been useful in ways heretofore unemphasized if not unrecognized, and that, in order to understand the place of science and technology in industry, we would do well to look more closely at the direction of industrial research and the relationships of the laboratories to their corporate sponsors.

Historical works on industrial science and technological innovation generally take a more narrow perspective on the place of patents in the corporate armory. In particular, they consider the uses of patents to be straightforward: the preclusion of competitors from chosen markets by control of crucial patent rights or by maintenance of prohibitively dense patent structures. Such methods have indeed been prevalent in the cases of one- or main-product firms, especially at a time when they were building their initial market positions. However, once primary markets had been secured, many corporations realized that survival required extensive and somewhat nondirective research efforts for the purpose of gaining patents, some of which were only peripherally related to their contemporary areas of commercial interest. As Willis R. Whitney, first director of research at General Electric, explained: "Our research laboratory was a development of the idea that large industrial organizations have both an opportunity and a responsibility for their own life insurance. New discovery can provide it." [2]

This type of "life insurance" protected the corporate "policy holder" in two ways. First, it opened up new areas to exploit commercially, providing opportunity for growth and ensuring that the company would have a strong hand in directing important new markets. Secondly, it offered the company protection from encroachment on its primary markets by placing it in the technological forefront, and, just as importantly, by putting in its hands patents that could be used to check potential competitors by attacking them in *their* primary markets. Thus, the use of patent rights could take on both

[2] Quoted in John Broderick, *Willis Rodney Whitney* (Albany, N.Y., 1945), 188.

an offensive and a defensive character, and the defense could be indirect.

While considerable research and development work on radio systems had been completed before industrial research laboratories took it up in 1912, within five years they transformed radio communication from a weak, distorted, and erratic medium to one that was strong, clear, and reliable. In so doing, the laboratories built patent structures for their corporate sponsors to use in the attempt to dominate the newly-profitable radio market of the 1920s. By studying how these patent rights were exerted we should acquire an appreciation of the complexities and subtleties of the commercial situation and an understanding of what types of commercial considerations provided direction to research efforts in the laboratories.

This is by no means the first effort to understand the types of research undertaken by industrial laboratories in the development of radio technology. For example, Kendall Birr's *Pioneering in Industrial Research: The Story of the General Electric Research Laboratory* (Washington, D.C., 1957) discusses vacuum tube and radio research in some detail, and G. L. Archer's *History of Radio to 1926* (New York, 1938) and *Big Business and Radio* (New York, 1939) look at the external factors that affected the development of the industry. What these authors share with numerous others who have written on the history of radio is a certain naïveté concerning the effect of commercial exigencies on the shaping of research. The standard interpretation is that the various companies maintained extensive programs exclusively for the purpose of putting themselves at the forefront of product innovation – an advantage to be used naturally in a competitive marketplace. But it is also true that these companies pursued research for monopoly control of markets, not for shares of the market, and that their eagerness for patents provided both direction and constraint to their research efforts. Let us begin by recounting the development of the radio art and by considering the attempts of several companies to dominate the new-born radio industry, before proceeding to examine the role of research and patents in attaining corporate goals, taking examples from the commercial history of radio.

PRE-WORLD WAR DEVELOPMENTS

The development of radio goes back to the nineteenth century. Following Heinrich Hertz's first successful transmission of "ether waves" in Germany in 1887, a young Italian named Guglielmo

Marconi developed a functional system of "wireless telegraphy" and by 1897 succeeded in organizing a British company to produce and lease the devices. This "wireless" used what is known as a spark-gap oscillator to generate waves: a single pulse of electricity in a specially shaped antenna produced one series of waves that corresponded to a dot or dash (according to duration) at the receiver, and subsequent amplification was minimal. In 1899 Marconi launched an American subsidiary and set out to lease equipment for use on ocean-going vessels. The U.S. Navy became his best customer.

Among Marconi's consultants in Britain was Ambrose Fleming. Familiar with incandescent lamp phenomena from having worked with the Edison Electric Light Company of London, Fleming in 1904 patented a device that resembled an electric lamp but that had certain electrical characteristics that made it a superior "detector" of received radio waves. Fleming called this two-element device a "diode," and assigned the patent rights to the Marconi Company. In 1907 the American inventor Lee deForest made a major improvement to the diode when he inserted a third element or "grid," into the tube. The grid of the "audion," as deForest called his improved device, made it a much more sensitive detector, and after its powers of amplification became known, the triode tube eventually became the heart of both transmitting and receiving apparatus. Within a few years, deForest had constructed a functional radio transmitter and receiver, though operation of the system proved to be erratic.

For more than a decade, meanwhile, the American Telephone and Telegraph Company (AT&T) had been interested in the commercial possibilities of long-distance telephone communication. Since signals attenuate with distance, the problem was to provide an amplifier or "repeater" as AT&T preferred to call it. Thus, when Professor Michael Pupin of Columbia University obtained a patent on the "loading coil," which reduced the need for amplification, AT&T immediately purchased the patent rights in 1900. AT&T had organized its own research department in 1881, but it was concerned, almost exclusively with the engineering development of existing apparatus. In 1906, the AT&T chief engineer reported to the president: "Every effort in the Department is being exerted toward perfecting the engineering methods; no one is employed who, as an inventor, is capable of originating new apparatus of novel design. In consequence of this it will be necessary in many cases to depend upon the acquisition of inventions of outside men,

leaving the adaptation of them to our engineers and to the Western Electric Company [an AT&T subsidiary]."[3]

The Panic of 1907 brought a change of management to the company and a new chief engineer to the Research Department. Both the new president, Theodore N. Vail, who returned to the company from retirement, and the new chief engineer, J. J. Carty, were concerned with applications of science to technology because they realized that science-fostered technological advance could have great impact on the Bell System. Carty was aware that radio in particular presented a threat to the wire-dependent Bell patent position. Thus, while one of Carty's first goals was to solve the long-distance telephone problem by development of a suitable "repeater," he kept an eye on the radio situation. In 1909, for example, he based a plea for expanded facilities on the anticipated value of work in what came to be called "electronics": "One additional argument making for vigorous work upon the development of a more powerful repeater I call to your particular attention. . . . Whoever can *supply and control* the necessary telephone repeater will exert a dominating influence in the art of wireless telephony [radio] when it is developed. . . . A successful telephone repeater, therefore, would not only react most favorably upon our service where wires are used, but might put us in a position of control with respect to the art of wireless telephony should it turn out to be a factor of importance."[4]

By 1911, radio work was in full swing at AT&T, and the annual report noted that, "to make adequate progress with this work, it was decided to organize a branch of the engineering department which would include in its personnel the best talent available and in its equipment the best facilities possible for the highest grade laboratory research. . . . A number of highly trained and experienced physicists have been employed."[5] This represented a complete turnabout from the corporate policy maintained as late as 1907.

The realization in 1912 that deForest's audion could amplify as well as detect prompted the Western Electric researchers to take a close look at it, and they very much liked what they saw. How-

[3] *Federal Communications Commission Investigation Pursuant to Public Resolution #8*, 74th Congress, Docket #1, Exhibit #2112, p. 105. (This is an FCC investigation of the Bell System undertaken in 1934 and published in seventy-seven volumes. Copies are available at the FCC Library at 1919 M St., NW, Washington, D.C. A condensed, one-volume report was issued in 1938, then revised and reissued in 1939; see the following two footnotes.)

[4] Federal Communications Commission, *Investigation of the Telephone Industry in the United States* (Washington, D.C., 1939), 189–190. Italics added.

[5] Federal Communications Commission, *Proposed Report Telephone Investigation* (Washington, D.C., 1938), 212–213.

ever, their early work confirmed that deForest's patent pre-empted virtually all possibilities for a better repeater. That is, while the Telephone researchers could design vacuum tubes far superior to those of deForest, his basic patent on the concept of inserting another element (or elements) between the diode's cathode and anode lay at the heart of every one of them and was protected by patent. Therefore, AT&T had to purchase all patent rights to the deForest tube in order to develop it. This was accomplished in 1913 and 1914 when the company attempted to obtain exclusive rights to all of deForest's inventions, a policy pursued wherever possible. However, deForest insisted on retaining rights under the patents for his own use.

The "triode" which the AT&T researchers took over in 1913 was very weak. It choked and distorted when they applied a loud speech current and it did not consistently give the same response to the same stimulus. The researchers mounted a massive attack on its theory, its mathematics, its construction, and its behavior.[6] First, they increased its vacuum, resulting in essentially pure electron emission that gave the tube more stable operating characteristics. They achieved other advances quickly, including a new type of filament that emitted more electrons and lasted longer, and improved the design of all three elements – cathode, anode, and grid. By 1915, AT&T had made the triode a reasonably reliable, stable device, and when the first transcontinental telephone line opened in that year, triodes performed the necessary amplification. During these years, AT&T had built up a substantial research organization, increasing the number of research personnel from 192 to 959 and the research budget from less than $500,000 to over $1,500,000.[7] As Carty explained to the stockholders: "This condition has been brought about by new demands for research in the fundamentals of the science of telephony; together with larger and very important activities in new branches of the telephone, telegraph, and wireless arts."[8]

The AT&T researchers undertook their first extensive wireless work in 1914, when a program was initiated with the objective of building an apparatus that could bridge the Atlantic with continuous-wave, voice-carrying signals. They accomplished this in short order. First tested between Montauk, Long Island and Wilmington, Delaware, an AT&T radio system was successfully transmitting to Paris by October 1915, though there were still great

[6] Maclaurin, *Invention and Innovation in the Radio Industry*, 89, 90.
[7] FCC, *Investigation of the Telephone Industry*, 196.
[8] *Ibid.*

problems of fidelity and especially of static to be solved. While not alone in radio-related research, AT&T was the first company to launch an organized effort aimed at perfecting a functional system of transmission and reception.

AT&T pursued these activities in order to learn more of the wireless art and to explore the properties and behavior of vacuum tubes, circuits, and radio waves, not to prepare for overseas commercial message service, which it was content to leave to the cable and Marconi companies. Rather, the company claimed that it intended to develop a two-way radio system for short-range use. As Carty noted, "the results of long distance tests show clearly that the function of the wireless telephone is primarily to reach inaccessible places where wires cannot be strung. It will act mainly as an extension of the wire system and a feeder to it."[9] As a "feeder" to the wire system, the AT&T directors saw two-way radio telephony as the natural province of the Telephone Company, and they intended to dominate the field. This orientation brings out the essential conservatism of the AT&T management; for, while a potentially profitable market for the new device loomed over the horizon, their first thought was securely fixed on protection of the company's wire interests.

When America entered World War I, the government decided to promote production of wireless apparatus for military purposes. This was accomplished by removing restrictions on the use of all devices and methods covered by patents, with the Government assuming financial responsibility for infringements. Thus, several companies, including AT&T, were able to spend the war years in the further development of radio systems.[10]

Although improvements certainly were made in circuit and tube design, the advance of greatest consequence effected during the war was the achievement of mass production of standardized tubes and sets. Previously, vacuum tubes and radios had generally been made one-at-a-time and were often one-of-a-kind (at least in their individual characteristics, if not their individual designs). Now,

[9] *Electrical World*, October 9, 1915, p. 790; About such pronouncements, Lloyd Espenschied, an engineer in the AT&T laboratory and a participant in the long-distance radio tests, later noted: "[T]he company was fearful that its own success [would] lead the public [to] believe that wires were about to be supplanted by radio, whereby they might sell their telephone stock! So, credit was given to no one, save a blanket commendation of its own workers, and the company began to preach the limitations of radio – the words spread all over creation, were not secret, were subject to interference, only a limited number of stations could operate in the common medium. . . . So much for the great radio events of 1915 – the company had a bear by the tail!" Quoted from a manuscript titled "Advent of Electronic Telephony," Box 8, *Lloyd Espenschied Papers*, Division of Electricity and Nuclear Energy, Smithsonian Institution.

[10] Lloyd Espenschied, "The Origin and Development of Radiotelephony," Institute of Radio Engineers *Proceedings*, vol. 25 (September, 1937), 1109.

the manufacturers produced thousands of identical devices, all with similar operating characteristics. Just as important for the nascent industry, thousands of military-trained radio operators were dispersed around the country after the war. These two factors – an advanced technology of mass production and a pool of potential employees, customers, and servicemen – provided an important spur to the commercial development of radio.

In 1919, AT&T resumed its former program by authorizing an expenditure of $500,000 for wireless development, including $360,000 for a marine transmitting and receiving station.[11] Through this program and through its early development of the deForest triode and various types of circuits, the Telephone Company by 1920 had acquired an important stake in radio technology. Although the company itself could not dominate the radio industry, it maintained a strong enough position to prevent any other company from doing so.[12]

And, of course, others would try. General Electric had been at work on the development of various aspects of vacuum tubes and radio since 1903. At that time the company had built a high-frequency alternator under contract to an inventor who wanted a carrier-current source for continuous-wave broadcast experiments. Further orders and further improvements followed and by 1907 the company possessed an alternator, designed and built by E. F. W. Alexanderson, that was an acceptable high-frequency current source for transmission. Alexanderson produced other important inventions for GE: an improved microphone in 1912, a better transmission antenna in 1916, and a circuit that helped eliminate static in 1918.

GE also undertook research that was initially directed at the incandescent lamp and x-ray tubes for medical purposes, but which bore on vacuum tube problems. First, they developed a new, more effective filament made from tungsten. Then, research on thermionic currents independently led the GE researchers to the realization that high-vacuum, pure electron discharge would make the deForest triode a more stable device. GE's Irving Langmuir filed for a patent on this use of high-vacuum; however, the application quickly became involved in a suit charging interference with an AT&T-sponsored patent application by H. D. Arnold on essentially the same advance. The interference continued for many years.

When the war brought the nascent radio industry to life, GE and

[11] Maclaurin, *Invention and Innovation in the Radio Industry*, 93.
[12] *Ibid.*

AT&T supplied the government with many radio parts. Westinghouse did so as well, although it had no patents of its own. Of course, during the war it needed none. The apparatus these companies produced in such quantity during the course of scarcely two years forcefully demonstrated the capabilities of the triode as the heart of a radio system. For example, as an oscillating source of broadcast waves, it proved to be far more versatile than the Alexanderson Alternator, which was not easily portable and limited to the longer waves (3000 meters and up). Thus it became apparent to GE, Westinghouse, Marconi, and other companies considering the manufacture of radio systems that in order to do so they had to acquire rights to the triode, which AT&T controlled so closely.

Maneuvering for rights to the triode began as early as 1915, when the Marconi Company, which held the patent rights to the diode, brought suit against deForest, claiming that the triode infringed the diode patent. DeForest brought countersuit, claiming that the Marconi Company was violating his patent by its use of a third element in some of its tubes. In September 1916, the court ruled in favor of and against both parties: (1) upholding Marconi, it declared the triode an infringement of the diode, and (2) that ruling notwithstanding, it decided that Marconi had, in fact, infringed the deForest patent. Neither of them could manufacture the triode![13] The two companies later tried to work out a scheme whereby deForest produced the tubes and Marconi distributed them, but that arrangement was already falling apart when the exigencies of war made it unnecessary.

Thus, as the war drew to a close and patent rights were about to be reasserted, the stalemate had to be resolved, along with many other interferences over tubes and circuits. Each manufacturer, pushing its researches as far as possible, repeatedly encountered some device or circuit that was already patented by another.[14] Obviously, such a situation could not long endure.

Post-World War Developments

With the end of the war, the Marconi Company decided to convert its wireless telegraph services to voice transmission, and began negotiations with GE for the purchase of several large alternators. GE was eager to make some profit from the alternator, as it was in no position itself to exploit the device, having rights to neither the

[13] *Ibid.*, 85.

[14] N. R. Danielian, *AT&T: The Story of Industrial Conquest* (New York, 1939), 109–110.

diode nor triode. But the Marconi policy of refusing to sell patented equipment outright aroused great antagonism in its largest customer, the U.S. Navy, which found itself dependent on a foreign company. Thus, when news of the impending agreement between GE and Marconi reached the higher Navy staff levels, there was strong sentiment against its consummation. With the assurance of a lucrative contract as one incentive, a high-ranking officer proposed to the GE directors that rather than selling alternator rights to the Marconi Company, they should instead purchase the American Marconi Company, and thus acquire all the Marconi patent rights for the United States. For reasons that are not entirely clear, GE agreed.

The British Marconi Company, aware of U.S. Government opposition to its control of American radio and cognizant of the obstacles the Government could place in its path, shortly came to terms. In October 1919, GE bought the British company's stock in American Marconi (about half the total) and the American stockholders agreed to a conversion of their holdings to securities of the new Radio Corporation of America (RCA), which GE formed to take over the Marconi assets. GE contributed over $3,000,000 to the venture, receiving only RCA stock in return. The plan from the outset was that RCA would not manufacture radio sets or tubes; these would be supplied by GE and sold through RCA. The two companies exchanged all patent rights, including those for inventions made up to 1945. This still left deForest's indispensable triode outside the new combine, so as one of its first acts, RCA in July 1920 negotiated a cross-licensing agreement with AT&T, which bought RCA stock valued at $2,500,000.

The companies wrote into the contract certain interesting restrictions concerning patent rights. The restrictions did not cover particular patents, but rather defined the fields of exploitation open to each company. AT&T received exclusive licenses under everyone's patents in wire telephony and telegraphy and certain specified rights to radio in conjunction with the wire telephone network. RCA and GE similarly acquired rights to use all parties' patents in wireless telegraphy, in international two-way radio communication, and "to make, use, lease, and sell all wireless telephone apparatus for amateur purposes".[15]

Not to be left out, Westinghouse had been busy since early 1920 building a formidable patent position by the purchase of strategic

[15] "License Agreement, General Electric Company and American Telephone and Telegraph Company, July 1, 1920," Article V, Paragraph 4, Section d,3. In Federal Trade Commission, *Radio Industry* (Washington, D.C., 1923), 134.

rights. Westinghouse concentrated on circuits rather than on tubes, and by October of that year controlled the patent rights to two of the most sophisticated detection systems, the heterodyne and superheterodyne circuits. There is some question as to what use Westinghouse would have been able to make of them. GE, for example, immediately contested the superheterodyne patent when Westinghouse acquired it, claiming that it infringed an earlier GE patent. Still, these and other patent rights that Westinghouse had bought were quite valuable in producing a receiver of advanced design, so GE invited the Pittsburgh electrical manufacturer to join the cross-licensing agreement. On June 30, 1921, the GE-RCA agreement was amended so that RCA purchased 60 per cent of its radio apparatus from GE and 40 per cent from Westinghouse.

Thus, by the middle of 1921 a formal structure had been carefully built in an industry that had been chaotic less than two years before. Primarily responsible for this was Owen D. Young, who, as legal counsel for GE, had handled the purchase of American Marconi and the establishment of RCA and who, as head of the new Corporation, had successfully brought AT&T into the fold. To Young goes the credit for bringing the different companies with different interests into an agreement that would probably have survived to everyone's satisfaction, had the market not changed significantly soon thereafter.

Based on its goals and its assets, each party to the agreement got what it desired and what it thought it deserved. We can see this best by considering these goals in relation to the expected market. To do this, we must divide the companies into two main groupings: GE, RCA, and Westinghouse on the one hand (hereafter often referred to as the "RCA group") and AT&T, with its manufacturing subsidiary, Western Electric, on the other. The first group intended to concentrate on wireless communication, the latter on wired or closed-circuit transmission. While the original goals of RCA were rather modest by industrial standards, they covered most areas of radio expected to be profitable. When it took over from American Marconi, RCA was engaged solely in wireless telegraph service, both transoceanic and ship-to-shore. Almost immediately, however, the Corporation began to sell apparatus to "amateurs" – those who experimented with radio as tinkerers, serious inventors, or scientists and those who broadcast and/or received as a hobby. When Westinghouse entered the agreement in 1921, it was to take a portion of this market. Since the sales of amateur apparatus had grown considerably in the years after the war and had prospects of continu-

ing to do so, GE's concession of 40 per cent of RCA's sales to Westinghouse was preferable to an entangled legal situation; for, while the giants engaged in their internecine struggle, others might sneak in to grab a substantial share of the market.

One other advantage brought to the RCA group by the agreement is so obvious as scarcely to need mention but so important as to require emphasis: protection from the most potent of competitors. As recently as April 1919, AT&T had been seriously considering a foray into the sphere of transoceanic and ship-to-shore communications.[16] Though AT&T lacked certain important patent rights held by the others, there was no assurance that the rapid pace of scientific and technological advance would not bring it other equally or more valuable rights in the near future. Thus, by keeping the Telephone Company out of wireless communications, the RCA group protected itself from what in 1920 and 1921 appeared to be its only substantial rival. Expansion into the radio apparatus market, however, was natural for companies like GE and Westinghouse. Capable of manufacturing products of high technological sophistication, they were already diverse; so that adding a new product line proved to be relatively easy. Vacuum tubes, for example, could be fabricated using machinery similar to that for making light bulbs. Furthermore, the companies were committed to this type of expansion. To maintain corporate integrity in the long term, they needed to secure new lucrative markets to compensate for those that would ultimately deteriorate for technological or competitive reasons. With research, production, and distribution organizations already established, GE and Westinghouse had an advantage from the start, and with corporate security at stake, they had a reason to enter and to try to dominate the market for radio apparatus.

For its part, AT&T gained security in pursuit of its outstanding corporate goal, monopoly of public-service, two-way telephone communications. AT&T had been fighting to maintain that monopoly ever since the original Bell patents ran out in the 1890s. First, it had protected itself by acquiring patents on telephone exchanges, which were necessary for the building of telephone networks. Then, it sought to dominate long-distance telephony by its acquisition of the Pupin and deForest patents. With absolute control of long-distance lines, it could refuse to connect to competing local systems, smothering them in isolation. Finally, in obtaining an exclusive license under the patents of potential competitors to "make, use, lease and sell wireless telephone apparatus connected to or operated

[16] *FCC Investigation*, Exhibit #2112, pp. 27 28.

as part of a public service telephone communication system, whether wire or wireless," [17] AT&T stymied the competition of two-way radio with its extensive wire network. While it had no need, desire, or intention to further develop two-way radio except as an adjunct to the wire system, by conceding minor profits to the RCA group in the form of ship-to-shore and transoceanic revenues, it blocked the "perennial gale" of competition before the first telephone line was blown over.

It should be emphasized that research leading to patents in radio helped to construct this new shield. In a memorandum after the 1920 agreement, Frank Jewett, AT&T's new chief engineer, told vice president J. J. Carty: "As I look back on it, it seems to me that this enlarged and enhanced position [in radio research] played no small part in enabling us to reach our present satisfactory understanding with the General Electric Company and the Radio Corporation of America and that if we never derive any other benefit from our work than that which follows the safe-guarding of our wire interests we can look upon the time and money as having been returned to us many times over." [18]

The Market — Destruction and Reformation

The careful work that went into building the industrial structure came to naught within a few years. As quickly as it had been created, the structure was destroyed by developments unforeseen as late as mid-1921. While technological innovation contributed to the crisis, it did not directly precipitate it. Rather, new technology brought new commercial possibilities, and the sudden realization of these possibilities initiated the collapse.

Usually credited with operating the first radio "station," Westinghouse began regular broadcasts in Pittsburgh in November 1920. The company expected station KDKA to stimulate sales of Westinghouse apparatus, and it intended to maintain the broadcasting operation, which was only on the air for a few hours each evening, out of profits from radio-related sales. With these sales growing rapidly in Pittsburgh, Westinghouse decided to open stations in the Boston and New York areas in the fall of 1921. WBZ, Springfield, Mass., went into operation in September, and WJZ, Northern New Jersey and New York, began broadcasting in October of that year. RCA actually operated a station in competition with WJZ for a few

[17] "License Agreement, July 1, 1920," Article V, Paragraph 4, Section e,1. In FTC, *Radio Industry*, 135.

[18] FCC, *Investigation of the Telephone Industry*, 209.

months in the winter of 1921–1922, but decided very shortly to join forces with Westinghouse and pay half of WJZ's operating expenses when the directors perceived that their interests coincided.[19]

RCA and its partners found themselves ill-prepared for the surge of orders for receivers and for transmitters from new groups who wished to become broadcasters that followed the opening of these stations. Under the generally accepted definition of the post-war period, the new-found radio audience consisted of "amateurs," and according to the agreement, the RCA group could "make, use, lease and sell" radio apparatus for them. Thus, GE and Westinghouse responded by beginning production of radio apparatus and by speeding up work on the development of improved receivers with an eye to getting them into production as quickly as possible, for in that early phase of the business the company that could supply the demand would gain a priceless advantage.[20] The agreement, however, prohibited the RCA group from selling transmitting apparatus to others.[21]

As long as the amount of apparatus to be sold remained relatively small, and as long as broadcasting appeared to be on an expense rather than a profitable undertaking, all parties to the contract were content with this arrangement. But by late 1921, it had become apparent that this was no longer the case, and AT&T had the most reason for concern. While it had secured its wire telephone plant, AT&T had passed up a share in new profits to be made in the manufacture and sale of radio sets, an art to which its engineers had made significant contributions. True, it had sole right under the contract to sell broadcast equipment; but the number of transmitters to be supplied numbered at best in the thousands, whereas the potential market for receivers was many millions. If it wanted to realize substantial profits, AT&T had two choices, either to make broadcasting pay or to force its way into the receiver market. It decided to try the first, though it kept its options open on the second by continuing research and development work on all facets of the radio art.

AT&T's attempt to dominate broadcasting presents the fascinating case of a company using its monopoly in one field as leverage to

[19] Gleason L. Archer, *Big Business and Radio* (New York, 1939), 245.

[20] *Electrical World*, vol. 79 (March 4, 1922), 419. An historian of radio has written: "The least expensive vacuum-tube receiver [1922] was a one-tube set manufactured by Westinghouse and marketed by the Radio Corporation . . . for $79.50. General Electric receivers employed three tubes and sold for $250. And even at these prices for simple sets, it was a year before suppliers were able to catch up with orders on hand." Quoted from Donald McNicol, *Radio's Conquest of Space* (New York, 1946), 341–342.

[21] "License Agreement, July 1, 1920," Article V, Paragraph 4, Section 2. In FTC, *Radio Industry*, 134.

force others out of an adjacent market area. Since commercial broadcasting had not been anticipated at the time of the 1920 agreement, the agreement contained no provision specifically granting rights for the manufacture and sale of broadcasting equipment to any party, though the RCA group was expressly prohibited from doing so. This was a strange arrangement, to be sure. The prohibition had been inserted "for the protection of the Telephone Company," apparently without full consideration as to the possible consequences. Under the circumstances, AT&T held the right to lease or sell broadcasting apparatus only under its own patents; but by 1922, these were insufficient for the purpose.

By late 1921, the AT&T directors realized the importance of blocking the proliferation and influence of stations established by rivals, especially those of the RCA group. Thus, their first act was defensive in nature. Using both their patent rights under the agreement to all activity related to wire telephony and their position as a monopoly of that service, they prohibited the RCA group from using telephone circuits to send signals from remote pick-ups, such as sporting events and public lectures, to the broadcasting studio.[22] Since most stations at the time considered broadcasting of this type to be an important function, AT&T's action represented a substantial threat. The Telephone Company continued this practice, denying pick-ups to the RCA group and even to its own licensees (those who bought its equipment) if an AT&T station opened in the vicinity. While Westinghouse, GE, and RCA could build transmitters for their own use under the contract, others had to rely on AT&T for equipment. None too anxious to outfit a troop of competitors, the company refused most requests for transmitters,[23] and those it did supply were granted only under a license stipulating that they could not be operated for hire — no advertising! As further dissuasion, AT&T set the cost of a transmitter and license very high: $9000 for a low power model (100 watts), $12,500 for a larger one (500 watts).[24]

By mid-1922, AT&T had decided on a course of action that would make broadcasting pay. Beginning in August, the company opened its own stations, intending ultimately to link them together as a network. Revenues were to be generated by selling air time, or broadcasting for toll, much like telephone service. With station WEAF about to be opened in New York, AT&T made the following an-

[22] *FCC Investigation*, Exhibit #289, p. 78.

[23] William P. Banning, *Commercial Broadcasting Pioneer: The WEAF Experiment, 1922–1926* (Cambridge, Mass., 1946), 55.

[24] Internal company memo, "Radio Telephone Broadcasting", quoted in *Ibid.*, 74.

nouncement: "Anyone desiring to use these facilities for radio broadcasting should make arrangements with Mr. Drake, general commercial manager. . . . Mr. Drake can advise fully with reference to all particulars concerning the use of the station including information as to the periods of operation and charges thereof. He is also in a position to give helpful suggestions with reference to the arrangement of programs and the kind of subject matter which it is thought will be most acceptable to the radio audience."[25] But no one applied!

The company expected to produce its own broadcasts for a few days until, it was believed, others would pay to take over. Finally, twelve days after opening, WEAF sold its first air-time, but only as an advertisement, not as an entire show.[26] Thus, a misconception of the public demand for broadcasting time put the company in a position that it had roundly condemned as undignified and inappropriate when it had refused to let others broadcast for hire with AT&T equipment. That winter, the company decided on another policy, best explained in the announcement sent out to the Associated Bell Companies:

> In each locality an important group of people will get together and form a broadcasting association. In that group of people should be the type that the community looks to as being the leaders of that community. In it I would expect to see the chamber of commerce, the important news papers [sic], the department stores. . . . For that association we would erect, own, and operate a broadcasting station; they to provide all the programs; they to give the public what the public desires but we to have the latest facilities known to the art and all of the things that go with them including remote-control lines and speech-input equipment. That station is to be operated by the Bell System under definite guarantees from the association as to expenses plus a reasonable return.[27]

By May 1924, AT&T had opened two other stations, one in Philadelphia and one in Washington, D.C., and operated them occasionally as a network. However, the idea of community stations never caught on, the AT&T management having been unable to organize local broadcasting associations.

AT&T was at a loss as to how to operate a broadcasting network at a profit, but its management harbored no doubts that such a monopoly was wise. In the same bulletin to the Associated Companies quoted above, an assistant vice president wrote:

[25] Archer, *Big Business and Radio*, 54.
[26] Gleason L. Archer, *History of Radio to 1926* (New York, 1938), 276.
[27] FCC, *Investigation of the Telephone Industry*, 388.

We have been very careful, up to the present time, not to state to the public in any way, through the press or in any of our talks, the idea that the Bell System desires to monopolize broadcasting; but the fact remains that it is a telephone job, that we are telephone people, that we can do it better than anyone else, and it seems to me that the clear, logical conclusion that must be reached is that, sooner or later, in one form or another, we have got to do the job. . . .

I may state to you that I have talked this idea over with Messr. Thayer [president], Gifford and Bloom [vice presidents] and each of them think [sic] it is a proper set-up.[28]

However, AT&T's aggressive tactics engendered strong opposition. Frequent newspaper and magazine editorials condemned the nascent monopoly.[29] Rumblings came even from the highest levels of government. Secretary of Commerce Hoover was clearly referring to AT&T when he wrote in 1924: "I can state emphatically that it would be most unfortunate for the people of this country to whom broadcasting has become an important incident of life if its control should come into the hands of any single corporation, individual, or combination."[30] Such opposition to a broadcasting monopoly posed a further threat, as it could create poor relations with AT&T customers and perhaps ultimately lead to opposition to an AT&T *telephone* monoply. As one apologist for the company put it: "Positive action to prevent other broadcasting operations . . . of course, 'very much involved public relations'. For one thing, such could easily be construed as an arbitrary and selfish effort to deprive the public of entertainment on which it was relying. And any such local feeling would necessarily react on telephone service itself which depends, for general usefulness and for growth, upon cooperative and understanding relations between company and customer."[31]

Had AT&T succeeded in its early schemes to organize and finance broadcasting, the public would have been presented with a *fait accompli*, a new monopoly. However, constrained by its directors' social and business attitudes, the company failed to consolidate its position before a groundswell of opinion made such an eventuality impossible. By 1924, it had become apparent that broadcasting would not be dominated by any one concern. AT&T had missed its chance for profit in this market, its first choice; so it turned to its second.

The greatest profits in the new radio industry came, of course, in

[28] *Ibid.*, 389.
[29] For example, see *Radio Dealer*, vol. 1 (April, 1922), 30.
[30] Maclaurin, *Invention and Innovation in the Radio Industry*, 114.
[31] Banning, *Commercial Broadcasting Pioneer*, 136.

the sale of radio receiving sets to the public.[32] The 1920 agreement placed this market in the hands of the RCA group, providing that the Telephone Company had "no license under this agreement to make, lease or sell wireless telephone apparatus *except* as part of or for direct use in connection with transmitting apparatus made by it." (The exception here provided for two-way radio used as part of the Bell communications system.) However, AT&T had built up a momentum in radio and vacuum tube research and development that by early 1924 placed a superior receiver in the hands of the company management. Seizing on the exception, AT&T began to sell sets with fixed frequencies of reception tuned to AT&T broadcasting stations. AT&T even went so far as to have one installed in the White House, an action which caused great consternation at RCA.[33] In addition, the Telephone Company began to claim that once the signal had come in the antenna and passed through the detector tube (or tuner) it was no longer wireless but wire telephony and thus open to them under the contract. An RCA internal memorandum of the period noted:

> The Telephone Group is actually manufacturing and selling loudspeakers, amplifiers, vacuum tubes, head telephones and other accessories, with full knowledge that such items are being used for the purpose of radio broadcast reception (our exclusive field). The Telephone Group contends that the items enumerated constitute a loud speaker device which it had been selling in the past for wire telephone purposes and therefore feels at liberty to continue to sell even though such devices are attached to and become part of radio broadcast receivers.
>
> The practical meaning of this activity on the part of the Telephone Company is that its subsidiary, the Western Electric Company, is selling radio devices or parts which constitute about 80 to 90% of a complete broadcast receiver.[34]

Because such a situation was intolerable to the RCA group, it initiated official arbitration as provided for by the 1920 AT&T-GE agreement.

Meanwhile, competition from other quarters continually dogged the RCA group in its drive to control the receiver market. Others'

[32] Sales of sets grew rapidly. The gross sales figures for RCA in its first three years in the receiving set market were: (1921) \$1,469,000; (1922) \$11,286,000; (1923) \$22,465,000. Figures from Archer, *Big Business and Radio*, 139.

[33] The *1922 Annual Report*, Engineering Department, Western Electric Company (copy at Bell Telephone Laboratories, Murray Hill, N.J.), p. 44, stated: "During the year development work was carried out on receiving equipment and this resulted in the design and manufacture of a number of different types of receiving equipment. The types of receiving sets which have been designed cover the whole field efficiently and we are in a position to meet any reasonable commercial demand." On the set in the White House, see letters from D. Sarnoff to F. P. Guthrie (April 30, 1924) and to J. G. Harbord (May 19, 1924), quoted in Archer, *Big Business and Radio*, 143, 145.

[34] Archer, *Big Business and Radio*, 78.

sets had appeared on the market as early as 1922, many with components free from RCA patent control. This was possible because when deForest sold the triode patent rights to AT&T in 1914, he had insisted on retaining a license for himself, and when the Fleming diode patent held by RCA ran out in 1922, deForest was free to produce triodes for sale in competition with RCA. While the RCA group controlled most of the important circuit patents for receivers, some others were workable, and one in particular, the neutrodyne, gave very good results with the deForest Company's tubes. The first of these sets appeared in the spring of 1923, and in all, fourteen companies were soon manufacturing neurodyne-equipped receivers.

Despite the impressive research departments at GE and Westinghouse, the RCA group had difficulty getting up-to-date sets on the market. The problem generally occurred at the "development" stage, where engineers designed new receivers and prepared them for full production. Since two essentially independent companies produced apparatus for sale under a common label it became necessary to standardize products and, in certain instances, to coordinate production. As one commentator remarked, "RCA . . . found itself under the necessity of harmonizing the views of three research and engineering departments for design and construction and, at the same time, of harmonizing those views with the public demand as determined by the sales department." A GE radio researcher noted, "RCA required that the two companies standardize their designs so that the casual purchaser could not tell the difference. Sometimes this 'standardization' took as long and cost as much as the original development."[35] The inter-company administrative structure worked so slowly that even after RCA approved final designs, several months usually passed before the first product deliveries. Since the research needed to produce an acceptable battery-powered receiver had been largely accomplished by 1922, the competition that grew up in the first few years consisted of rather limited technological advance or development. Science-oriented research departments such as those at GE or AT&T could produce break-throughs that destroyed the structure of an industry; but for the latest-and-best-model competition within a temporarily stable structure, the far less sophisticated development staffs of any number of manufacturing enterprises proved to be just as effective.

Thus, in the early 1920s the RCA group received stiff competi-

[35] *Ibid.*, 25; William C. White, "The Story of Electronics Development at the General Electric Company," unpublished MS, c.1955 (copy at Division of Electricity, Smithsonian Institution), p. x-c-2.

tion from companies capable of usurping its lead in product design. Unable to launch an effective offensive, RCA decided to fall back on its patents for protection. It challenged the neutrodyne circuit patent, claiming in 1924 that certain aspects of the circuit had been anticipated by GE and Telephone Company workers as early as 1913. RCA contended, not that the neutrodyne patent was invalid, but that like the triode as an extension of the diode, the neutrodyne built on circuits to which RCA held patent rights, and that those wishing to use the neutrodyne circuit had to procure a license from RCA as well. RCA lost the initial decision in district court but pressed the case and won in the Court of Appeals in 1927.[36] Thereafter, RCA controlled all of the major circuit patents for radio receivers, and any company wishing to produce sets needed an RCA license. RCA patent royalties increased from $136,000 in 1926 to $3,300,000 in 1927 as a result of the decision.[37] Some smaller companies went out of business because of the 7.5 per cent royalty rate, which forced up their prices and took away their competitive edge. Others did not even get a chance, for RCA restricted the granting of licenses to "$100,000 customers."[38] To maintain its position as the dominant force in the field, RCA further required that all licensees give it an option to acquire any radio-related patents they might secure. There was no choice but to comply.

An invention that came out of the Westinghouse laboratory put a lock on the RCA patent position in 1928. Up until that time it had been necessary to operate all radio sets with direct current, which was usually supplied by batteries, although a special "battery-eliminator" could be used to rectify alternating house current, which, applied directly to vacuum tube filaments, created a hum in the receiver. The invention of vacuum tubes with indirectly heated cathodes and special circuits for their use permitted radios to be plugged directly into the home electrical system, a saving in the cost and inconvenience of batteries and battery-eliminators. This innovation led to a new round of radio set sales beginning in 1928, and the $388,000,000 retail sales of that year swelled to $592,000,000 in 1929.[39]

Such figures show that great profits could be made in the sale of receivers. Although the method of market control had not become clear by 1923, both RCA and AT&T were then aware that

[36] Maclaurin, *Invention and Innovation in the Radio Industry*, 129.
[37] *FCC Investigation*, Exhibit #2112, p. 57.
[38] Maclaurin, *Invention and Innovation in the Radio Industry*, 136.
[39] John F. Rider, "Broadcast Receiver Equipment Then and Now: History of Receiver Design", *Radio News* (May, 1931), 1072; T. T. Eoyang, *An Economic Study of the Radio Industry* (Doctoral dissertation, Columbia University, 1936), 75.

patent rights could be used to great effect, and that their laboratories would supply them with new weapons in the years to come. While the arbitration first begun in 1923 aimed at interpreting the 1920 license agreement and thus clarifying the rights of the parties under it, AT&T wanted an entirely new contract that would redefine the market and restructure the industry. Since the 1920 agreement the RCA group had continued to expand its broadcasting interests, violating the spirit if not the letter of that contract. RCA and its partners claimed that the provisions permitting them to operate their own stations implicitly conferred the right to do so profitably if possible, while the agreement envisioned a more restricted role. The RCA group maintained extensive research and development programs in radio transmission as well, taking out patents that, under the contract, did not revert to AT&T for that purpose, and thus threatening the Telephone Company's position.

The details of moves and counter-moves made during the course of arbitration, negotiation, and settlement of the dispute are voluminously recorded in G. L. Archer's *Big Business and Radio*. The initial instigator of contractual scrutiny was actually RCA, who, perturbed by AT&T's refusal to supply pick-up wires or to meet its other demands concerning broadcasting, hired an outside attorney to make an "impartial interpretation" of the agreement in mid-1922. The attorney's reading of the often ambiguous document left neither side satisfied. In fact, it led to the realization by both parties that areas each had assumed to be closed off might be open under one or another interpretation of the contract, which led to emboldened thrusts into the market such as that by AT&T described above.

Article XIII of the 1920 GE-AT&T agreement stated that either party could call for formal arbitration if "any difference . . . shall arise which the parties are unable to adjust between themselves." [40] In May 1924, by mutual consent, they undertook formal arbitration. The main points in dispute were (1) whether the RCA group could use AT&T pick-up lines for broadcasting (that is, whether these lines were "wire telephony" and thus strictly in the Telephone province, or whether they were an adjunct to the RCA group's right to maintain its own stations) and (2) whether AT&T could manufacture radio sets pre-tuned to receive only its own stations. Since AT&T hoped to eventually monopolize broadcasting, a favorable decision on the latter question would have opened the way into the entire receiver market.

In a preliminary "Draft Decision" dated November 13, 1924, the

[40] "License Agreement, July 1, 1920", Article XIII. In FTC, *Radio Industry*, 138.

arbitration referee found virtually all disputed points in favor of RCA. Momentarily stunned, the Telephone Company quickly regained its composure, and in March 1925, produced a legal opinion that obviated the need to put the draft into final form. The crux of the new argument was that, as construed by the referee, the agreement violated the Sherman Antitrust Act because it constrained the Telephone Company from selling radio sets even though it could do so entirely under its own patents. Much to its dismay, the RCA group could find no counterpoint, and negotiations entered a new stage. Through the summer of 1925, AT&T held the upper hand in bargaining, because the dispute no longer concerned whether AT&T could enter the radio market, but what share of that market it could have.[41]

Then in the fall a stunning reversal occurred. The previously mentioned Arnold-Langmuir interference suit on the high-vacuum tube, which had been in litigation since before the World War, was decided by the U.S. Court of Appeals in favor of Langmuir and RCA. Since virtually all phases of the radio art required high-vacuum tubes, a new situation arose: blocked in the use of the Arnold patent, AT&T could no longer produce receivers completely under its own patents, which nullified the antitrust argument. Nor, it should be noted, could AT&T any longer sell broadcast equipment![42] Appeal was made to the Supreme Court as a matter of course, but the possibility of a final adverse decision now loomed large in the dispute.[43]

In the summer of 1926 the two groups finally came to terms. Repulsed in its battle to enter radio sales and unsuccessful for a number of reasons in its attempt to monopolize broadcasting, the Telephone Company retreated to its main line of defense, maintenance of its telephone monopoly. In the new license agreement, AT&T received the telephone monopoly reassurance and acquired control of all two-way communication systems, including ship-to-shore and transoceanic radio telephony, a market area which had gone to GE in 1920. The agreement specifically stated that members of the RCA group had the right to use telephone lines for station pick-up and for network transmission; in fact, it obligated them to do so (as opposed to stringing their own or using Western Union's), thus

[41] Archer, *Big Business and Radio*, 207–208.

[42] *DeForest Radio Co. v. General Electric Co.*, U.S. Circuit Court of Appeals for the Third Circuit, 44 F. (2nd) 931 (1925). This point seems to have been missed by Archer and by those who, like Maclaurin, used him as a source.

[43] In fact, the Supreme Court ruled in 1931 that high-vacuum was not a patentable invention and therefore all patents relating to it were invalid. *DeForest Radio Co. v. General Electric Co.*, 283 U.S. 664.

ensuring AT&T of what was to become a substantial source of revenue.[44] For its part, the RCA group accomplished what it had wanted all along: domination of the radio receiver market and the right to use telephone lines as an adjunct to broadcasting for hire. AT&T sold its stations to RCA and agreed to stay out of broadcasting. The two groups agreed to compete in the least financially rewarding market area, the sale of broadcast equipment.

Thus, in mid-1926 a new structure had been established in the radio industry. The preamble of the new agreement stated that because, in 1920, "the art in certain fields dealt with in said [1920] agreement had not progressed to a point at which it was possible fully to comprehend the problems involved, disputes have arisen between the parties as to the meaning of various provisions of said agreement," and as a result "certain provisions of said agreement are not, as a practical matter, workable in the present state of the art." Unless the parties settled these disputes and made the agreement workable in practice, "progress in the fields dealt with in said agreement will be greatly hampered and delayed." This really meant that the companies were making a new attempt to define more clearly the boundaries of the exclusive domain of each party so that none would overstep the others' territory.[45]

Research, Patents, and Competition

Industrial research consists of many activities. Of particular importance are (1) research leading to the discovery of laws of nature, often in conjunction with the creation of new or improved products or processes, and (2) development work to better utilize already-known principles for the modification of existing devices or to reduce the costs of production. Each of these activities has its place in the research scheme, and each is important in its turn. The "end product" in both cases is often a patent, which means that to comprehend the directions of industrial research we must understand the corporate value of these patents. Our case study has already revealed extensive use of patent rights to gain control of a market, and if we look more closely at the motives of the companies that acquired and held these rights we should be able to understand why they undertook extensive research operations.

Patent rights were of primary importance to the Telephone Company, which used them quite effectively to extend its control of

[44] *FCC Investigation*, Exhibit #2112, p. 30. The AT&T revenues for this service amounted to over $28,000,000 between 1926 and 1935.
[45] Danielian, *AT&T*, 127.

telephone service. It first relied on the original Bell patents, then on exchange patents, then on those for long-distance telephony. In 1907, a transition year for research at AT&T, the president of the company testified in court: "One of the first things that was fully developed in our minds was the necessity of *occupying the field*; not only that but of surrounding ourselves with everything that would protect the business. . . . Just as soon as we started into the district exchange system we found out that it would develop [sic] a thousand and one little patents and inventions with which to do the business which was necessary, and that is what we wanted to control and get possession of."[46] Before 1907, "getting possession" of patents usually entailed buying them, but after that date the company began to rely on in-house production and acquired only those patents vital to its interests, such as the deForest triode and feedback circuit. "A thousand and one little patents" meant just that; AT&T took out patents on every minor modification or advance which qualified under the patent laws as invention. The company realized that such patents might become useful later.

Pursuit of patents to achieve corporate goals exerted a major directive force on the work of the research departments. If a researcher had a particular objective in mind – for example, the improvement of a tuning or amplifying circuit – he often continued work on a design that he would have preferred to abandon simply because the company wanted patents not only on better circuits but on all circuits that qualified under the patent laws.[47] This, of course, would keep them out of the hands of competitors. A 1912 exchange of letters between J. J. Carty, an AT&T vice president, and C. E. Scribner, the chief engineer of its subsidiary, Western Electric, makes this policy explicit:

> [Directive:] Naturally, I would not wish to delay the practical development of the repeater [deForest triode] but I should hope that there would be some way whereby alternative methods might be thought out and patented. I think it is important that you go as far in this direction as you can. . . . I think that the patenting of the alternatives is a very important feature of our work and I suggest that the routine covering such matters be looked carefully over and strengthened if necessary, the idea being that as far as possible on all new developments of substantial importance, we patent the alternative methods.
>
> [Response:] I sometime ago pointed out . . . the desirability of doing

[46] *FCC Investigation*, Exhibit #2112, p. 20. Italics added.

[47] For example, R. A. Heising of AT&T applied for three patents on modulating circuits within a year, one of which he acknowledged to be a minor modification to that of another AT&T researcher. See R. A. Heising patents 1,137,315; 1,199,180; and 1,343,562. Heising's statement in "Modulation in Radiotelephony", Institute of Radio Engineers *Proceedings*, vol. 9 (1921), 316.

what you propose and, after discussion with Mr. Thayer [AT&T President], it was decided that we should adopt the policy of developing alternate methods to the more important lines of development, and carry on this alternative to a point where patents might be secured. . . . The plan is to keep the actual physical tests down to the point where simply enough information is gained to justify the prosecution of a patent application.[48]

Even though, as the Western Electric chief engineer pointed out, the laboratory kept the "actual tests" to a minimum, the process, including patent application and attorney's fees, had to be expensive. Why, we may ask, was it worthwhile to pursue patents that the company did not intend to use in production?

To answer this question we must look at how the companies actually exerted their various patent rights. There are essentially three ways to use patents for purposes other than production. The first is the most obvious: *to prevent competition*. AT&T's "thousand and one little patents" on the district exchange system kept competitors out of the market by making its product (the telephone tied into an extensive exchange system) distinctly superior to what the others could offer; for, while there are many ways to build an exchange, AT&T held patent rights on some essential aspect of all of them. When its exchange patents ran out, AT&T sought to similarly control long-distance telephony so that any potential competitor's district exchange system would be kept isolated.

Secondly, the holding of important patents can be used *to prevent competitors from acquiring a strong patent position through their own research*. RCA accomplished this by inserting in its license contracts an option to acquire rights under all radio-related patents developed by its licensees. This, together with the wide patent coverage of the RCA group, destroyed the licensees' incentive for original research through the 1930s.[49] Other ways to use patents to stymie competitors' patent positions were more subtle but no less important. Sometimes, inventions which originally appeared to have no strategic value became quite useful later. An excellent example brought out in the narrative is RCA's use of pre-World War patents (which had been of no consequence for ten years) in a successful move to regulate the use of the neutrodyne circuit in 1924. Frank Jewett, chief engineer of AT&T after the World War and head of Bell Telephone Laboratories from its founding in 1925, discussed this type of strategy in 1932:

[48] *FCC Investigation*, Exhibit #2112, p. 2.

[49] Maclaurin, *Invention and Innovation in the Radio Industry*, 155. The license agreement had a further advantage for RCA: it assured that the licensees recognized the validity of RCA patents.

While it is obvious that the basic inventions which control a large new field are not made very often, one can never tell where or when they will crop up. . . . When . . . [they] do, possession of a strong and unmortgaged patent position on the part of an industry needing rights is frequently the most powerful and sometimes the only available weapon for securing those rights. *Ability to stop the owner of a fundamental and controlling patent from realizing the full fruits of his patent by the ownership of necessary secondary patents may easily put one in the position to trade where money alone might be of little value.*[50]

This statement brings out the third "non-productive" use of patents: *trading*. The story of the creation and re-creation of structures in the radio industry has of course, been essentially one of trading, although the companies traded market area rights to all patents rather than all rights to particular patents. Jewett made clear just how worthwhile he believed AT&T's research work in radio to have been – even though most of it eventually wound up in the hands of the RCA group – when he testified in 1936: "I told you earlier . . . that I considered this expenditure in radio one of the most profitable expenditures the American Company [AT&T] had ever made, and I still do. . . . It has created a patent situation that has protected the Associated Companies, either directly or through the American Company from the attacks of people who would have otherwise obtained patents or inventions which relate not only to wireless and radio, but to all the wire plant."[51]

Perhaps nowhere has the big business attitude towards patents, research, and the trading of patent rights been more fully or forcefully expressed than in an AT&T internal memorandum written in 1927 and revealed in the Federal Communications Commission's investigation of the telephone industry:

The regulation of the relationship between two such large interests as the American Telephone and Telegraph Company and the General Electric Company and the prevention of invasion of their respective fields is accomplished by mutual adjustment within "no man's land" where the offensive of the parties is recognized as a natural defense against invasion of the major fields. Licenses, rights, opportunities, and privileges in connection with these competitive activities are traded off against each other and interchanged in such a manner as to create a proper balance and satisfactory relationship between the parties in the major fields. . . .

It seems obvious that the best defense is to continue activities in "no man's land" and to maintain such strong engineering, patent and commercial situation [sic] in connection with these competitive activities as to always have something to trade against the accomplishment of other parties.

[50] *FCC Investigation*, Exhibit #1946, pp. 15 16. Italics added.
[51] *FCC Investigation*, Exhibit #2110, p. 99.

> If the American Telephone and Telegraph Company abandons its activities in the commercial competitive field and other potentially competitive interests continue their activities, it means that they will carry their offensive right to the wall of our defense and our trading must be in our major field against activities in their outlying commercial fields. The nearer the trading can be carried to the major field of our competitors the more advantageous trading position we are in.[52]

Thus, based on the philosophy that the best defense was a strong offense, the rational course of action was to develop a strong patent position as close as possible to a competitor's main field of commercial interest. And this is exactly what AT&T did in the six years between license agreements. It only failed to acquire a large share of the receiver market and control of broadcasting because of an adverse legal decision on crucial patent rights in the former case and because of inept handling of an ill-conceived market in the latter. But, it is important to note that, although AT&T had failed dismally, it had only to retreat as far as the lines of its monopoly on telephone service, and to an extended monopoly at that. The RCA group for its part, maintained strong research and patent positions relating strictly to broadcasting even while the first agreement was in force – when it had few rights to exploit broadcasting commercially. The effect of this policy was to keep pressure on AT&T and to provide material should trading have become necessary or desirable.

Conclusion

Research-generated patents were used during the course of the early commercial development of radio for the purpose of gaining market control, just as they had similarly been used in petroleum refining and electrical equipment. Companies used them both offensively and defensively: either to gain concessions from competitors, or to short-circuit new inventions that might have had disruptive possibilities. In almost every case, research became a more important factor in competition for monopoly control than in competition for shares of the market.

With the arrival of high-technology industries came a new conception of the uses of industrial research. But, although few have argued that industry undertook research from a sense of corporate altruism, the fact is that industrial research has most frequently been perceived in terms of "progress." Standard works such as H. R. Bart-

[52] FCC, *Investigation of the Telephone Industry*, 210.

lett's "The Development of Industrial Research in the United States" treat its growth in simple quantitative terms, as if twice as much money and twice as much manpower has meant twice as much scientific and technological advance.[53] However, while some large laboratories have given relatively free reign to a few of their best scientists, it is important to realize that the majority of men and resources has been devoted to pursuit of those types of patents useful for market control. In a significant sense, then, science has been compromised to the extent that research funds and researchers have been sacrified to the essentially unproductive work needed to gain or maintain monopoly position, and pursuit of patents has been at the heart of this process.

[53] Howard R. Bartlett, "The Development of Industrial Research in the United States", National Resources Planning Board, *Research – A National Resource* (Washington, D.C., 1940), vol. II.

THE EDITOR'S CORNER

The Newcomen Society in North America Award in Business History, consisting of $250 and a scroll, for the best article published in the *Business History Review* during 1976, has gone to Dr. Jocelyn Maynard Ghent and to Dr. Frederic Cople Jaher for their article, "The Chicago Business Elite: 1830–1930. A Collective Biography," which appeared in the Autumn issue. Dr. Ghent is a Postdoctoral Research Fellow at Carleton University in Ottawa, Dr. Jaher is Associate Professor of History at the University of Illinois, Champaign—Urbana.

The Newcomen Society's Special Award of $100 and a scroll for the best article published in the *Review* during 1976 by a graduate student or recent Ph.D. who has not published a book, has gone to Dr. Thomas G. Marx, for his "Technological Change and the Theory of the Firm: The American Locomotive Industry, 1920–1955," which appeared in the Spring issue. Dr. Marx, who received his Ph.D. from the University of Pennsylvania in 1973, is an economic consultant with Foster Associates, Inc., of Washington, D.C.

These awards, which are made annually, are the result of balloting by the Editor, Associate Editor, and Advisory Board of the *Business History Review*. Details of the award are given in an advertisement elsewhere in this issue.

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The 1977–1978 Harvard-Newcomen Postdoctoral Fellowship in Business History has been awarded to Elizabeth E. Pickering, Assistant Professor of History at Auburn University, whose doctoral work in history was done at Princeton University.

This fellowship is jointly sponsored by the Newcomen Society in North America and the Harvard University Graduate School of Business Administration. The purpose of the fellowship is to assist a Ph.D. graduate in history, economics, or a related discipline such as sociology to improve his acquaintance with business and economic history, to increase his skills as they relate to that field, and to engage in research that will benefit from the resources of the Harvard Business School and the Boston scholarly community. The Fellow participates in the School's business history courses and in at least one other formal course of instruction based on his particular needs or interests. At least one-half the Fellow's time during his twelve-months' residence at the School is spent on research of his own choosing in the field of business and economic history.

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The Business History Conference and the Harvard Graduate School of Business Administration will sponsor a conference on "The Rise of Modern Business Enterprise: A Comparative Approach," on September 11 and 12, 1977. Scholars from here and abroad will present papers on

the rise of big business in the United States, Great Britain, France, Germany, and Japan and on the implications of these analyses for economic theory and institutional history. Persons desiring further information should write to Professor Alfred D. Chandler, Jr., Harvard University, 212 Baker Library, Soldiers Field, Boston, Massachusetts 02163.

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We note with pride that the Organization of American Historians has presented its Frederick Jackson Turner Award for the best first book in American history to Merritt Roe Smith, Associate Professor of History, Ohio State University, for his *Harpers Ferry Armory and the New Technology: The Challenge of Change* (Ithaca, N.Y.: Cornell University Press, 1977). Professor Smith held the Harvard-Newcomen Postdoctoral Fellowship in Business History at the Harvard Graduate School of Business Administration during the academic year 1974–1975.

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The Academy of Accounting Historians announces the initiation of the *Accounting Historians' Journal*, to which both members and non-members of the Academy are invited to submit manuscripts. For information about the Journal, write to William E. Stone, Co-Editor, *The Accounting Historians' Journal*, 202 Matherley Hall, University of Florida, Gainesville, Florida 32611. About membership in the Academy, write to The Academy of Accounting Historians, P.O. Box 6999, University, Alabama 35486.

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The American Historical Association, in collaboration with the Association of American University presses, has established "an AHA-administered annual competition for first books of young (beginning) historians." Manuscripts, which may not exceed 300 double-spaced typed pages in length, must be unpublished, and must not be unrevised dissertations. Up to ten manuscripts will be selected for recommendation to the Association of American University Presses, which may or may not decide to publish any or all of them. See a forthcoming issue of the AHA Newsletter. No manuscripts should be submitted at this time.

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The Forest History Society has announced a biennial award of $500 to the author of the best book published in the field of North American forest and conservation history. The award will be given for the first time in 1977, for books published in 1975 and 1976, and every two years thereafter. It is in addition to the annual Theodore C. Blegen and Frederick K. Weyerhaeuser awards of $150 each for best articles. Write to Harold K. Steen, Forest History Society, P.O. Box 1581, Santa Cruz, California 95061.

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The National Archives and Records Service, in cooperation with the Southern Historical Association, announces the second Charles Thomson prize competition for an essay by "a scholar whose work utilizes the holdings of the National Archives or Presidential Libraries to explore any significant aspect of Southern history." In addition to the prize of $250, the award provides for publication of the essay in *Prologue: The Journal of the National Archives*. Entries should not exceed 7500 words, and must be received *not later than August 1, 1977*, by John J. Rumbarger, Editor, *Prologue, The Journal of the National Archives*, National Archives Building, Washington, D.C. 20408.

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With the aid of a grant from the National Historical Publications and Records Commission, a task force is currently seeking out and inventorying the records of the railroads that were predecessor to Conrail. The group has ascertained that many valuable records may be located at numerous points along the lines of the former Pennsylvania, New York Central, New Haven, Erie, Lackawanna, and lesser railroads, and they will greatly appreciate any information leading to such material. When a determination has been made of the physical storage problem involved, efforts to locate permanent repositories for these historic materials will be initiated. To give or receive information on this matter, write to the Project Director, Dr. Richmond D. Williams, Director, Eleutherian Mills Historical Library, Wilmington, Delaware 19807, telephone (302) 658-2401.

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The National Archives and Records Service is considering the destruction of 1000 cubic feet of case files of the Army Price Adjustment Board relating to profits made by suppliers on World War II contracts. These cases contain data on both operating and capital costs, efficiency, and adjustment of payments in the light of profits. They are available for research without restriction. Persons having an interest in the preservation of these records should write to Meyer Fishbein, Director, Military Archives Division, General Services Administration, National Archives and Records Service, Washington, D.C. 20408.

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The National Endowment for the Humanities has awarded a grant of $75,000 to the Immigration History Research Center of the University of Minnesota to begin a survey of the records of all fraternal insurance organizations rooted in American ethnic communities. Write to Rudolph J. Vecoli, Director of the Center, 826 Berry Street, St. Paul, Minnesota 55114.

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Inventory of the Records of the National Forest Products Association, compiled by Richard C. Davis, is the third in the Forest History Society's series titled Guides to Forest and Conservation History of North Ameri-

ca. The inventory describes seventy-eight feet of records held by the Society in Santa Cruz, heavily concentrated in the period from the 1920s to the 1960s, although a few items date from as early as the founding of the association in 1902, and circular materials are included from as recently as 1975. The printed inventory may be obtained for $1.25 from the Forest History Society, P.O. Box 1581, Santa Cruz, California 95061.

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The International Economic History Association announces that the Seventh International Economic History Congress will be held in Edinburgh, Scotland, from August 13 to 19, 1978, under the sponsorship of the British Economic History Society. Write to Congress Executive Office, Seventh International Economic History Congress, 60 Newbattle Terrace, Edinburgh EH10 4RX, Scotland, United Kingdom.

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The Women Historians of the Midwest and the Chicago Area Women's History Conference are sponsoring the second Conference on the History of Women, at The College of St. Catherine, St. Paul, Minnesota, October 21 to 23, 1977. Write to Conference on the History of Women, The College of St. Catherine, St. Paul, Minnesota 55105.

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The Oral History Association will hold its 12th National Workshop and Colloquium in Coronado, California (near San Diego), October 20 to 23, 1977. Write to Ronald E. Marcello, Oral History Association, Box 13734, N.T. Station, North Texas State University, Denton, Texas 76203.

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David M. Sherman, Chief, History Preservation Section, Department of Natural Resources, 270 Washington St., N.W., Atlanta, Georgia 30334, seeks materials relating to the life of Charles Lanman (1819–1895), American artist, author, and explorer.

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We note receipt of the following books, in addition to those reviewed or scheduled for review:

— Hughes, Thomas P., *Thomas Edison: Professional Inventor* (London: Her Majesty's Stationery Office, 1976); pp. 47; photographs; paper. Order from Pendragon House, Inc., 220 University Avenue, Palo Alto, California 94301.

— Scheiber, Harry N., Harold G. Vatter, and Harold Underwood Faulkner, *American Economic History* (New York: Harper & Row, 1976), pp. 514; $18.95. Textbook. "A comprehensive revision of the earlier work by Harold Underwood Faulkner."

— Duis, Perry, *Chicago: Creating New Traditions* (Chicago: University of Chicago Press, 1976), pp. 144; many illustrations; $12.50 cloth, $7.95 paper. Based on the special U. S. Bicentennial exhibit created by the firm of Staples & Charles for the Chicago Historical Society.

— Sidar, Jean Wilson, *George Hammell Cook: A Life in Agriculture and Geology, 1818–1889* (New Brunswick: Rutgers University Press, 1976), pp. xvi + 282, $11.95. A biography of a pioneer in scientific education under the Morrill Act of 1862.

— Garner, S. Paul, *Evolution of Cost Accounting to 1925* (University, Alabama: University of Alabama Press, 1976), pp. xiv + 416, $6.50. Paperback reprint of original 1954 edition reviewed in *Business History Review*, XXIX (June, 1955), 208.

— Atherton, Alexine L., *International Organizations: A Guide to Information Sources* (Detroit, Gale Research Press, 1976), pp. xxvii + 350, $18.00.

— U.S. Department of Commerce, *Statistical Abstract of the United States, 1976* (Washington, 1976), pp. xxiv + 1025, $10.00 cloth, $8.00 paper, from the Superintendent of Documents.

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Erratum: The Editor apologizes to Dr. Jocelyn Maynard Ghent, co-author of "The Chicago Business Elite: 1830–1930. A Collective Biography," which appeared in the Autumn 1976 issue, for the error in her name as listed in the Table of Contents and in the 1976 Index. The error has been corrected for the Five-Year Index that will appear this year.

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BOOK REVIEWS

BANKING REFORM AND THE FEDERAL RESERVE, 1863-1923.
By Robert Craig West. Ithaca, Cornell University Press, 1977. Pp. 243. $14.50.

Reviewed by Benjamin J. Klebaner
Professor of Economics
City College, C.U.N.Y.

The Federal Reserve Act was "the greatest single piece of constructive legislation of the Wilson era," in the opinion of the leading modern historian of the period (Arthur S. Link, *Wilson: The New Freedom*, 238). Nevertheless, we have had to wait some 60 years after the event for a comprehensive, scholarly analysis of the complex economic and political background of the enactment and the subsequent early history of the Federal Reserve system, by Robert Craig West, assistant professor of economics at the University of Maryland.

A brief review of American banking under the National Bank Act up to 1908 is followed by a 100-page discussion of major currency reform proposals, especially those formulated in the years following the Panic of 1907, with detailed consideration of the Aldrich Bill approved by the National Monetary Commission, and the evolution of the Glass bill, which eventuated in the Federal Reserve Act. The balance of the monograph (some 90 pages) consists of a perspicacious, critical review of the theory behind the 1913 act and the evolution of Federal Reserve policy and structure in the first decade of the system's existence.

West shows that Representative Carter Glass's expert, H. Parker Willis, borrowed from Aldrich in many essentials, as well as from his teacher at the University of Chicago, J. Lawrence Laughlin, and from the corporation lawyer Victor Morawetz. Both houses of Congress centered their debate on the number of reserve banks to be established, who should control them, and their powers. While the House majority viewed the Glass bill as providing for a decentralized system, the Senate thought it had passed a central bank measure. In any case, as West shows, by 1923 the Federal Reserve Board had succeeded in gaining control of discount rate policy as well as of open market operations.

Laughlin and his students Willis and Scott envisioned the quantity of circulating medium properly regulated by the needs of trade. West emphasizes, however, that "it is extremely difficult, if not impossible to

find evidence that Federal Reserve Board members or other important policy makers accepted this [Willis-Glass] strict version of the real bills doctrine" (179). Investment banker Paul Warburg, the forceful advocate of a central bank (and member of the first Federal Reserve Board, 1914–1918), as well as such economists as Sprague and Andrew, rejected the notion that a note issue based on commercial bills was self-regulating. West points out the practical as well as theoretical unsoundness of the real bills doctrine and argues convincingly that it was *not* the basis of Federal Reserve policy.

The Glass bill was "covered all over with the slime of Bryanism," the *New York Sun* fumed (Link, *Wilson* 216), yet surprisingly, West nowhere discusses Bryan. It was the willingness of "the Great Commoner" to support the bill after symbolic modifications were added excluding bankers from the Federal Reserve Board and making Federal Reserve notes obligations of the United States, which helped assure passage of the controversial measure. With the 1913 law, the definitive, sympathetic biography points out, "[i]n large degree Bryan had fulfilled his destiny as a currency reformer" (Paola E. Coletta, *William Jennings Bryan 1909–1915*, 138).

West's careful research incorporates manuscript papers and correspondence of such important figures as Willis, Laughlin, and Strong in addition to a large number of publications. Nevertheless, his bibliography lacks a number of pertinent contemporary articles in scholarly journals: e.g., by Kemmerer and other economists in the *American Economic Review* of March, 1913, and Sprague's in the *Quarterly Journal of Economics* for 1914 and 1916. Missing, too, are references to Link, to Ross Robertson's *The Comptroller and Bank Supervision*, and to Phillip Cagan's essay on "The First Half Century of the National Banking System" (in Deane Carson's *Banking and Monetary Studies*). Nevertheless, the reader who wishes to understand the Federal Reserve will turn to West's book for important insights.

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DEMOCRATIC PROMISE: THE POPULIST MOMENT IN AMERICA. ***By Lawrence Goodwyn. New York, Oxford University Press, 1976. Pp. xxvii + 718. $19.95.***

POPULIST VANGUARD: A HISTORY OF THE SOUTHERN FARMERS' ALLIANCE. ***By Robert C. McMath, Jr. Chapel Hill, University of North Carolina Press, 1975. Pp. xiii + 221. $13.95.***

Reviewed by H. Wayne Morgan
George Lynn Cross Research Professor
University of Oklahoma

Professor Lawrence Goodwyn divides populism into two parts. The first is a "shadow movement" of electoral politics that culminated in 1896. The second and more important to him is a "movement culture," allegedly based on mass participation, dedicated to replacing capitalism with a cooperative commonwealth, which the same electoral politics destroyed. Free silver and fusion were thus the undertakers as well as cowbirds of true reform.

Goodwyn treats populism in greatest depth for places like Kansas, Texas, and the Deep South. Any detailed study of a subject increases its apparent importance, which is the case here. Goodwyn offers little perspective on populist demands and activities, and is entirely uncritical of populist ideas. Indeed, this is the best exegesis of them in print. The author admits that periodic hard times sharpened the agrarian movement's appeals, but sees populism as an organic reaction to oppressive capitalism rather than a collection of interest groups responding to depression.

Goodwyn savors every cliché dealing with the non-populist aspects of the Gilded Age. The older parties were thus rooted in mere sectionalism derived from the Civil War, refused to respond to industrialism's effects, and debated false issues. The author simply uses the period as a backdrop for the story of populist failure at the hands of the money power, without asking how two such outmoded parties survived populism. He attributes poor populist showing in the Great Lakes states to the opposition of conservative farm groups and bad organization. He concedes that populism had little appeal for workers or immigrants and that prosperous farmers everywhere rejected it. At every point, he introduces some form of conspiracy thesis to explain why this populism failed to reach beyond its natural constituency of distressed marginal farmers.

The story is cast throughout as a morality play, with corporate interests beating down agrarian radicalism; overstatements abound on nearly every page. Goodwyn's special animus is directed against eastern bankers and the gold standard they allegedly employed to enrich creditors. Bankers thus become mere agents who collect interest for their own purposes; the concept of risk capital is nowhere in evidence. Goodwyn lavishly praises greenback currency. The Sub-Treasury plan becomes the era's greatest economic proposal, and its author Charles Macune an unsung thinker. The perils of commodity storage plans, fiat money, and economic disorder do not daunt the author.

In Goodwyn's view the chief legacy of the populist failure was a general acceptance of what he calls corporate ideals, an interest in money, efficiency, and power rather than individual happiness. Later reformers were content to change the system's workings rather than replace it. "The Populists were thus the last American reformers with authentic cultural credentials to solicit mass support for the idea of achieving the democratic organization of an industrialized society" (539). In a lengthy historiographical essay, Goodwyn also concludes that the literature on populism until now has been wanting.

Professor Robert C. McMath's book is altogether different. Though more narrow in scope than Goodwyn's, it offers a better guidepost to understanding agrarian discontent. McMath sees the Alliance as an almost inevitable outgrowth of the frontier experience, with social, then economic, then political objectives. One of his best chapters details how Alliancemen and -women developed a sense of community on their frontiers. He also notes that much of Alliance rhetoric arose from an evangelical religious tradition rather than political radicalism. The cooperatives that Alliance leaders discussed so much failed because they could not create credit, or alter the existing economic structure. McMath

sees the Alliance movement, and by implication the larger agrarian discontent it represented, as rooted in economic self-interest. His conclusions are worth quoting: "If comparative weight of words is the standard of measurement, Alliance spokesmen were much more concerned with marketing and purchasing cooperatives and with federal monetary policy than with restoring a Jeffersonian Arcadia or with building a proto-socialist society" (61). He accords the Alliancemen their right to form an interest group, and sees them as "actors in the marketplace with their backs to the wall" (157). This is an altogether admirable little book, that retains a sense of scope and common sense while treating its subject in great detail.

The study of populism is passing through another cyclical upswing among historians. Recent studies are generally dedicated to discovering who became populists and similar positivistic information. The result has been to fragment older unified views of agrarian discontent without establishing any new ones. No one has yet adequately explained why populism failed if it was indeed a grass roots movement with a viable alternative to capitalism. A more interesting question, from the standpoint of national history, is why most farmers did not become populists. Goodwyn holds that populism was an effort to overcome inherited sectionalism with a vision of man freed from corporate activity. This, to say the least, is an evanescent view. In the end, populism may be important only as an aspect of the sectional hatreds and tensions that have always plagued America.

The inability of scholars to agree on the meaning of the same information about populism remains striking. Its apparent importance or actual effects seem relative to the viewer's stance rather than to the facts involved. Populism in the literature is coming to resemble one of those adjustable mirrors in diet salons, which one can dial to look fat or thin according to one's ideals. Looking at the most vivid populist spokesmen can create the impression of a viable, radical national movement. Yet those leaders may not have spoken for many people, and the rhetoric may have been just that. It is interesting that so many scholars treat populist rhetoric as revealed truth, and that of Republicans and Democrats as mere platitudes for a false occasion. Looking at only the populist rank and file, one might conclude that the movement was merely composed of marginal farmers, wishing to enter a system they thought had shut them out. Detailing what populism's pragmatic politicians did in relation to other party leaders might as easily lead to the conclusion that populism was as opportunistic as any other movement when the prospect of power and place materialized. Dial your number.

Some scholars have questioned the use of the term "Progressivism" as too vague to encompass a great variety of often conflicting reformist ideas. There was, these critics hold, no such thing as Progressivism or a Progressive Movement. Perhaps the time has come to drop the textbook chapter title "Populism" and treat this phase of agrarian discontent as an aspect of industrialism that should be studied in national perspective rather than from regional or class viewpoints. And is it too far-fetched to suggest that there never was a cohesive, deeply rooted movement, but a collection of interest groups seeking redress from a

system and a nation that no longer thought they were a viable majority in its life? And could it be that all we as historians see of this movement is what remained of the Cheshire Cat?

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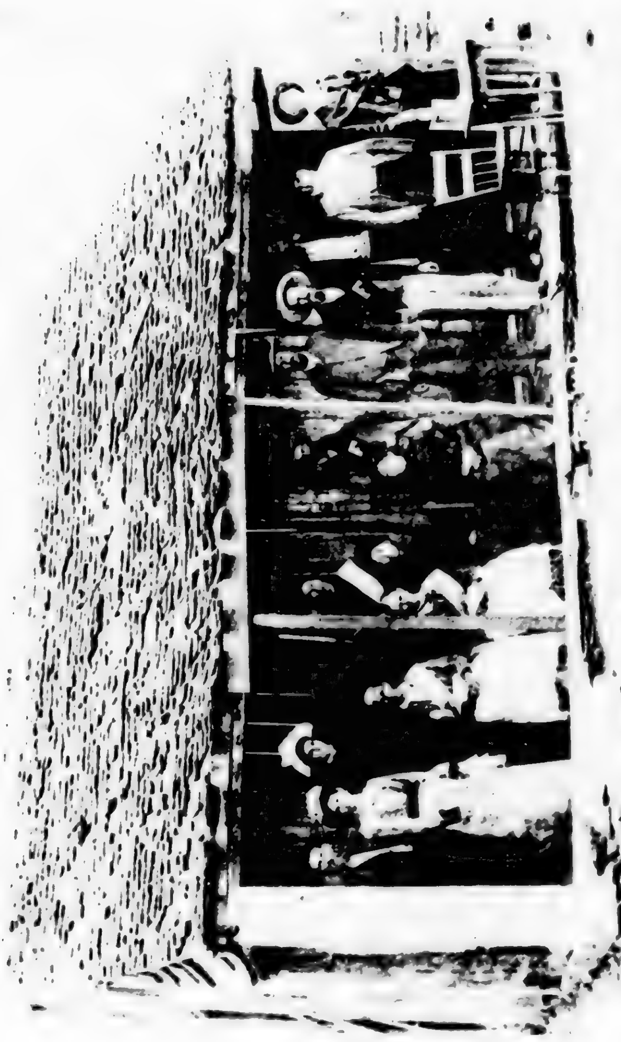
RADICAL PROTEST AND SOCIAL STRUCTURE: THE SOUTHERN FARMERS' ALLIANCE AND COTTON TENANCY, 1880–1890. ***By Michael Schwartz. New York, Academic Press, 1976. Pp. xii+ 302. $17.50.***

Reviewed by Harold D. Woodman
Professor of History
Purdue University

Sociologist Michael Schwartz's study of the Southern Farmers' Alliance attempts not only to describe and assess a particular social protest movement but also to provide a theoretical framework for the study of such movements, one that "can really explain and clarify how protest occurs and when it will grow or die" (ix). Most historians will question such tendentious historical scholarship as well as the universal applicability of the theory. Nevertheless, historians will find this volume a useful and original analysis of the history of the Alliance. The theory, although often strained and mechanical, provides, suggestive insights for the study of mass movements.

Schwartz argues that Alliance complaints were rational reactions to social and economic conditions. Rather than lashing out in pathological frustration at imagined but unreal enemies, Alliance members carefully and reasonably assessed conditions and pressed for reforms that would release Southern farmers from the thralldom of tenancy and poverty. Opposition to Alliance activities resulted in policy shifts that revealed sharp class differences within the Alliance between the elite leadership and the rank-and-file membership. Both well-to-do farmers and planters as well as yeomen and tenants had joined the Alliance, for both groups had common grievances against merchants and industrialists. However, the wealthy farmers and planters, who were landlords, opposed efforts by tenants to alter the tenancy system, the main source of the misery of the rank-and-file membership. Therefore, the move from boycotts and cooperatives to political action was not a membership decision to adopt a more effective reform strategy, but rather was an elite leadership decision designed to protect their wealth and social standing and to advance their political ambitions. By 1890, the membership no longer controlled the leadership, nor did it determine policy. Instead, the leadership manipulated a largely passive membership.

The leadership's electoral strategy resulted in defeat at the polls or betrayal in the legislatures. When the leadership refused to alter policies and led the organization into Populism, the bankruptcy of the electoral strategy was revealed once again. Tenancy continued to spread, raising the prospect of renewed grass roots insurgency aimed at real reform. But, Schwartz concludes, insurgency was thwarted by the planter class (including planters who had been in the Alliance-Populist leadership), which, recognizing the danger of a renewed movement for reform, es-



"The Last Meeting of the First Farmers Alliance at their First House."[1]

tablished a coalition that "resolved the planter-industrial conflict and this resolution created and maintained a social control apparatus capable of containing and redirecting agrarian discontent" (283–284).

While Schwartz's class analysis of the Alliance and its opponents is often illuminating, his concept of class is sometimes mechanical and narrow, and consequently his argument ofter borders on a crude form of economic determinism. At times class conflicts are seen as struggles for social, political, and economic hegemony, but at other times classes become narrow interest groups, working in almost conspiratorial fashion for short-term immediate economic gain.

Schwartz's emphasis on problems of organization and leadership and the ways in which the immediate economic interests affected reform efforts is important — but incomplete. Neglected is a consideration of the ability of the system to accept reforms without being completely destroyed. Thus, the antebellum planter class could allow no compromise with abolitionism, for such a compromise would undermine and eventually destroy the entire social system. On the other hand, factory owners could agree to reforms concerning working conditions, hours of work, union recognition, and the like without undermining the system itself, making reform in these areas much more likely. "Reform" in the first instance is not really reform — but revolution. In the second instance, the workers' demands would be truly reformist, bringing change well within the prevailing social and economic system.

On the surface the Alliance demands were reformist; the Exchanges would replace the furnishing merchants as the source of credit and supplies. But without a more fundamental restructuring of property relations, the Exchanges, even if successful, would simply become furnishing merchants under a different guise. To be truly successful the Exchanges would have had to initiate the breakup of large estates and the redistribution of property into small family units that, if they were to remain small and family owned, would have had to be largely self sufficient.

Such changes would have reversed the process of commercialization in Southern agriculture, particularly in the white, hill country areas. They would have radically altered property relations and brought a fundamental redistribution of income and wealth. And they would have gone counter to the ongoing process (mentioned but not pursued by Schwartz) of transforming tenants into wage workers on large farming units. Changes of this kind may be characterized as "rational" in that they could alleviate the distress of tenant farmers, but they sharply contradicted the tendencies in the American economy and challenged in a revolutionary way — actually, in a very real sense, a reactionary way — the economic system itself. Seen in this light, the Alliance was far more than a protest movement.

Schwartz's study leaves many questions unanswered and many readers will disagree with his analysis. But he has provided a fresh and provocative look at an important social movement in the South. Historians will do well to read and ponder his book.

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THE CORPORATION AND THE INDIAN: TRIBAL SOVEREIGNTY AND INDUSTRIAL CIVILIZATION IN INDIAN TERRITORY, 1865–1907. ***By H. Craig Miner. Columbia, University of Missouri Press, 1976. Pp. xv + 236. $11.00.***

Reviewed by Mary Young
Professor of History
University of Rochester

Already historians — notably Angie Debo and Paul W. Gates — have accorded more than passing attention to the work of railroad and cattle corporations in effecting the transfer of Indian resources to non-Indian control. In this economical, judicious, urbane little monograph, H. Craig Miner offers the first full-scale analysis of the role of railroad, mining, and cattle corporations in opening present-day Oklahoma for development. Miner argues that although both railway and cattle corporations occasionally pursued short-range competitive interests by supporting tribal government in their opposition to bills for organizing an Indian territory under U.S. control, the total impact of corporate involvement reinforced pressures that eroded and ultimately destroyed tribal sovereignty.

Miner dates the "beginning of the end" of tribal self-government from a series of post-Civil-War treaties with the "civilized" tribes of eastern Oklahoma that granted rights-of-way for railroads. Although it is true that until the war bankrupted and divided their people, tribal governments successfully warded off the railroads' demands, one could point to extensive federal curtailment of the tribes' legislative jurisdiction and meddling with the internal affairs of tribal governments from the time such governments were established.

Nonetheless, Miner proves that the railroads in Cherokee, Choctaw, and Creek lands, as elsewhere, brought townsites and mining and cattle enterprises, and with these enterprises both legal and illegal white settlement on a scale far beyond the capacity of tribal governments to control. The resulting "law and order" problems alone provided convincing arguments for strengthening the federal presence in Indian nations.

The adventures of tribal legislatures with corporate lobbyists recapitulated the adventures of many states. Like other states, the tribes included many citizens who regarded full-scale use of local resources as essential to "progress." E. C. Boudinot, leader of the southern faction of the Cherokee, actively lobbied for rights-of-way, laid out the first railroad boom-town in the Cherokee Nation, organized his own railway company, joined the "ring" that lobbied in Washington for the organization of a federal Indian territory, and touted both the inevitability and the virtue of "development" in his newspaper, *Indian Progress.* Dennis W. Bushyhead, principal chief of the Cherokee from 1879 to 1887, illustrates another kind of adaptation to the modern world. He restored the solvency of the Cherokee treasury and enlisted cattlemen in the cause of tribal sovereignty by renting six million acres of grazing land to the Cherokee Strip Livestock Association.

Yet tribal governments and governors proved to be different from ordinary state officials in significant ways. Factions of long standing —

usually identified as "fullblood" though their leaders might be pale-skinned college graduates in business suits — opposed corporate penetration as a threat to their isolation, independence, and tradition of common ownership of the land. Unfortunately, factional rivalries exacerbated the Indian governments' tendency to appeal to Washington to settle the details of leases, royalty payments, and tribally-awarded corporate charters. Following a tradition of long standing, Washington proved only too eager to intervene. Much federal meddling probably reflected benevolent intent. One or another federal official found tribesmen wanting the capacity to manage their own corporations, negotiate profitable leasing agreements, collect legislatively-imposed royalties. So an attorney-general, a Commissioner of Indian Affairs, a Secretary of the Interior or a Senate committee redid the tribe's business, not infrequently to the short-run economic advantage of the Indians. Such interference did not enhance the predictability of the business climate in the Indian nations or the enthusiasm of businessmen for dealing with two tiers of sovereignty. Nonetheless, some persistent and well-connected oil and coal operators managed to snake through the bureaucratic maze and emerge at the end with highly profitable leasing agreements.

Congress proved considerably more hospitable to corporate lobbyists than to tribal delegates. Beginning in 1882 with a unilateral grant of railroad right-of-way over lands owned in fee by the tribes, and culminating with the virtual abolition of tribal governments' control over their own people and resources in the Curtis Act of 1898, Congress reduced Indian sovereignty by simply ignoring it.

Although Miner has confined his research primarily to the voluminous records of the tribes and the federal establishment, inferring corporate purposes from the behavior and testimony of the corporations' representatives rather than from internal business records, he keeps deftly in touch with larger corporate strategies. No summary can do justice to the complexity of the games he describes. He populates his story not with heroes and villains, but with players more or less clever, more or less informed, at a game whose rules proved unpredictable and whose parameters few understood. At the end of the game, the state of Oklahoma emerged with more than 5,000 miles of railroad, dozens of gushers and incipient millionaires, and (in the eyes of the law) not a single sovereign Indian nation to its name.

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HISTORY OF TECHNOLOGY. ***Edited by A. Rupert Hall and Norman Smith. London, Mansell, 1976. (Distributed by ISBS, Post Office Box 555, Forest Grove, OR 91116.) Pp. vii + 183. $22.50.***

Reviewed by James E. Brittain
Associate Professor of History of Science and Technology
Georgia Institute of Technology

This volume launches an important new venture in the history of technology under the editorship of two well-known British scholars. As the editors suggest in their preface, they regard it as a competitor of such established periodicals as *Technology and Culture*. Although all but one

of the contributors to the inaugural volume have a British connection, the editors emphasize that they would welcome appropriate contributions from elsewhere for subsequent annual volumes. Manuscripts may be addressed to the editors at the Department of History of Science and Technology, Imperial College, London SW 7.

The following eight articles are included in volume I: D. S. L. Cardwell and Richard L. Hills, "Thermodynamics and Practical Engineering in the Nineteenth Century;" Jacques Heyman, "Couplet's Engineering Memoirs, 1726–33;" Norman A. F. Smith, "Attitudes to Roman Engineering and the Question of the Inverted Siphon;" R. A. Buchanan, "The Promethean Revolution: Science, Technology and History;" M. Daumas, "The History of Technology: its Aims, its Limits, its Methods;" Keith Dawson, "Electromagnetic Telegraphy: Early Ideas, Proposals and Apparatus;" Marie Boas Hall, "The Strange Case of Aluminium;" and G. Hollister-Short, "Leads and Lags in late Seventeenth-Century English Technology."

I found the two most original and provocative papers to be those of Smith and Hollister-Short. Their papers have several common features despite being about very different periods and cultures. Both are revisionist, deal with water technology, and focus on aspects of complex systems that frequently have been overlooked or overshadowed by aqueduct bridges and Newcomen engines.

Smith's essay is one of the best I have encountered on the theme of Roman engineering. He includes a thorough critique of previous scholarship that reveals some of the more serious deficiencies and stereotypes. The rest of the paper is a model exposition, with imaginative and effective use of both documentary and artifactual evidence to formulate a new interpretation. He demonstrates to my satisfaction that the Romans did utilize the inverted siphon whenever it was more economical or expedient than alternatives.

Hollister-Short uses mining pump-rod systems to develop a surprisingly novel interpretation of the pre-history of the British Industrial Revolution. He argues persuasively that the failure of German mine pumping technology to diffuse into English mines by the early 1700s had the paradoxical effect of accelerating adoption of new and more expensive steam-driven pumps. In the process, he challenges J. U. Nef's thesis that English mines were too deep to have been drained successfully by existing non-steam pumps. Hollister-Short speculates that the English may have "put themselves to school with quite the wrong masters" by adopting Dutch rather than German methods (172). He suggests that the Netherlands acted as a cultural barrier against technological diffusion from Germany.

Business historians may find the historiographic essay by Maurice Daumas, translated and introduced by A. R. Hall, interesting. Daumas (and Hall) raise the issue of whether the emphasis on the social and cultural context of technology advocated by several leading scholars in the profession is desirable as opposed to investigations of "the origin, definition, chronology, and transmission of techniques" (88). Daumas also evaluates the feasibility of substituting precise symbols, lattices, and graphical representations of technological change for the more qualitative methods that have been more traditional among historians of technology.

The editors of *History of Technology* have adopted a format much like

that of *History of Science*, which was published as an annual volume from 1963 to 1972 and has continued as a quarterly. One of the more attractive features of *History of Science* was its long essay reviews and bibliographic essays. The editors would perform a useful service to the profession by including these features in addition to articles. Also I found the quality of the articles to be quite uneven. A few should have been subjected to a more rigorous refereeing process before being accepted for publication. Nevertheless, I agree with the editors that there is room for another journal devoted to dissemination of scholarly research in the history of technology.

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PERSPECTIVES ON TECHNOLOGY. ***By Nathan Rosenberg. New York, Cambridge University Press, 1976. Pp. x + 353. Cloth: $24.95; paper: $6.95.***

Reviewed by Reese V. Jenkins
Associate Professor of History
of Science & Technology
Case Western Reserve University

All too frequently, collections of previously published articles by a single academic author are redundant vanity pieces indulged in to provide a shortcut to lengthening the vita and impressing the dean. This work is a significant exception. During the past quarter century much of the serious academic study of the nature, character, development, and impact of technology has coalesced about two major groups with distinctively differing models of the activity: economic historians drawing nearly exclusively upon economic assumptions and historians of technology, who focus strongly upon internal technical developments while also drawing upon methodologies from social, economic, and intellectual history and anthropology. As these approaches have become more sharply demarcated during the past fifteen years, Nathan Rosenberg, an economic historian, has emerged as a pioneering leader in seeking to bridge these two main streams of technology studies.

Much of Rosenberg's most important work is buried in articles scattered through nearly a dozen journals and symposia volumes. Therefore, it is appropriate that these articles be brought together and be made readily available to students of the subject. Because Rosenberg's research is focused, the collection possesses an unusually strong unity for a work of this type. He divides the articles into four groups: historical accounts, origins of new technology, technological diffusion, and technology and the environment. In the first group, three historical articles emphasize nineteenth century American technology. Included is an important article on the role of the machine tool industry in the diffusion of technological change from the manufacture of firearms early in the nineteenth century through a sequence of products concluding with the production of bicycles and automobiles at the turn of the twentieth century. The other two articles compare American and British wage differences and the role of resource endowment in the use of wood in machines. In the former he suggests that wages of American machine makers were abso-

lutely less than those of the English, hence raising a qualification of Habakkuk's case that higher labor costs in America than in Britain prompted the differences in degree of mechanization in the nineteenth century.

The remaining three groups are, in general, less historical and more conceptual and evaluative; yet, Rosenberg frequently takes recourse to historical illustration and example, often drawn from the capital goods industry with which he is so familiar. The second and third groups are concerned with analyses of invention and innovation; the economic and social factors influencing the origins, directions, and timing of such creative efforts; and the diffusion of technological changes. Here he quite appropriately argues that inventive activity is a gradual, continuous process as opposed to Schumpeter's earlier emphasis on a few major discontinuous innovations. Rosenberg believes that the broad, ultimate incentives are economic, but because they are diffuse, they do not explain the particular sequence and timing of innovative activity. Therefore, he turns attention to the specific characteristics of the technology and its setting, emphasizing technological disequilibria, the interdependence of technologies, the key role of the capital goods sector in technological diffusion, and social-institutional factors. This analysis is done in a context of sustained argument, reflecting broad acquaintance with the current economic literature and sophisticated historical understanding of the parameters of the technologies. This successful bridging effort is accomplished without overburdening the reader with technicalities.

The final section includes three articles addressing the issues of technology, the environment, and available resources for the future. Significantly, these articles demonstrate the weaknesses of the arguments of our contemporary doomsayers by focusing on the roles of resource substitution and technological change. Treating these issues with sensitivity and wisdom, he places them in historical perspective, beginning with Thomas Malthus.

The concluding essay is essentially a critique of Jacob Schmookler's *Invention and Economic Growth.* While others have criticized Schmookler's use of patents as surrogates for invention, Rosenberg attacks his view of technological change as a factor that can be explained entirely in economic terms. Addressing Schmookler's demand-side emphasis, he argues that Schmookler ignores important supply-side considerations because he regards science and technology as omnicompetent. Schmookler's position, of course, also clashes with Rosenberg's view of the interdependence of technologies and his view that internal factors are important in technological development. Hence, Rosenberg steers a middle course between those current critics who see technology as an autonomous and often ominous force and those who seek to interpret technology exclusively in economic terms.

While I find Rosenberg's arguments sound and convincing, his own predilections for an economic framework prevent him from developing and exploiting more fully the current emphasis, within history of technology circles, upon technologies as bodies of knowledge that embody values, aesthetics, cultural presuppositions, and other non-economic

elements (for example, see the Burndy Library Conference Proceedings [1973] in *Technology and Culture*, Oct. 1976). Were he to abandon his view of science as bodies of cumulative, positive knowledge and to draw more carefully relationships between science and technology, then he could develop even more forcefully his important emphasis on supply-side considerations and some of their non-economic origins.

This is minor criticism, however, of an important series of essays that deserve to be read and understood by a wide audience Rosenberg is a moderate interdisciplinarian who has provided and continues to provide a thoughtful, informed, and vitally important bridge between two major perspectives on technology today. Cambridge University Press has served him well, wisely providing full documentation of the original articles and an excellent index. They have also prepared a paperback edition, which makes the study available at moderate cost for classroom use. It is to be hoped, therefore, that this work will be read by all students of business and economic history who are concerned with the role of technology in the Western business and economic system.

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THE POLITICS OF BUSINESS IN CALIFORNIA, 1890–1920. ***By Mansel G. Blackford. Columbus, Ohio State University Press, 1977. Pp. xiii + 221. $12.50.***

Reviewed by Walton Bean
Professor of History
University of California, Berkeley

This book makes an important contribution by using the politics of California in the late nineteenth and early twentieth centuries as a case study in assessing the contributions of business groups to the political-economic reforms of the period. It builds on the work of Samuel P. Hays, in his *The Response to Industrialism* (1957), and of Robert Wiebe in *Businessmen and Reform* (1962) and *The Search for Order* (1967). These and other historians concluded that the earlier interpretations of George Mowry, in *The California Progressives* (1951), and of Richard Hofstadter, in *The Age of Reform* (1955), had overstressed the importance of patrician reformers and the efforts of a displaced elite to regain status. Of greater importance, Hays and Wiebe argued, were the efforts of new, aggressive, increasingly self-conscious groups of professionals and specialists in business, agriculture, and labor.

Gabriel Kolko, in *The Triumph of Conservatism, a Reinterpretation of American History, 1900–1916* (1963), went so far as to argue that national political leaders during that period "in virtually every case chose those solutions to problems advocated by the representatives of concerned business and financial interests" (2). Mansel G. Blackford's evidence is limited to the politics of California, but it suggests that Kolko's assumptions, like those of so much recent revisionist historiography, were at once perverse and simplistic. The California evidence also suggests that Hays and Wiebe, though to a lesser degree than Kolko, may have exaggerated the relative importance and success of businessmen in shaping the political reforms of the Progressive era.

On the other hand, the broader interpretation, stressed by Hays, Wiebe, and others, that a major force in this period was the attempt of Americans to cope with social and economic disruptions by increasing the degrees of organization, modernization, centralization, and bureaucratization in American society and government, is a basic assumption of Blackford's book. In California, as in the nation generally, the spread of bureaucratic organizations and the growth of professions, together with a heightened awareness of the need for order and efficiency, formed a major theme in the history of the period. Businessmen "tried to solve their difficulties through a complex combination of private and public activities that, taken together, comprise what I have labeled the 'politics of business'" (x).

In agriculture (more recently called agribusiness), California growers sought to combat the specter of overproduction by establishing private cooperative marketing arrangements, with limited success; in state politics, Blackford emphasizes the struggle between growers and consumers, a struggle that had nothing to do with either party lines or distinctions between "progressive" and "reactionary." Grower and consumer interests cancelled each other out, and virtually no important state legislation resulted. In oil, although overproduction was equally troublesome, oil men backed conservation measures only when they promised immediate benefits, and struggles within the industry itself prevented any consensus on effective state regulation. Lumbermen supported conservation and scientific forestry only when assured that they could profit by doing so.

Groups of businessmen were most effective in politics through their contributions to the 1911 laws for the regulation of railroads and public utilities. The driving force for railroad regulation, Blackford finds, came less from an outraged public seeking lower rates than from shippers and merchants who wanted to stabilize their businesses; for this, uniform rates were more important than lower ones. Public utility executives hoped that state regulation would end competition, and also end the continual wrangling with local authorities. Bankers were also fairly successful politically when the Bank Act of 1909, drawn up mainly by a committee of the California Bankers Association, provided for the office of state superintendant of banks, which would conduct periodic examinations; this made banking more orderly, with a resulting increase in its profits and reduction in its losses. The proposals of some progressive legislators for deposit insurance were denounced and blocked by the bankers as "socialism, thinly disguised." A "blue sky" law, sought by the investment bankers themselves, brought greater order into their business. The tax reform act of 1910 gave businessmen statewide uniformity, at very moderate levels, in corporation taxes.

Blackford has explicitly sought to throw light on the much-debated question of whether American politics have been elitist or pluralistic, and, especially, the extent to which businessmen controlled politics for their own ends. He plumps for pluralism, so far as this study has general implications. Although, as Hiram Johnson remarked, businessmen would have *liked* to capture control of the state commissions set up to supervise their activities, they succeeded only in a few cases, at least in California

in the Progressive era. The insurance companies probably achieved the greatest degree of success in this respect. I would add that in the 1920s, the time of the *real* "triumph of conservatism," most of the other state commissions did come under the control of the businesses they were supposed to regulate. But even then, as in the earlier decades, it is clear that California businessmen achieved only partial success in their efforts to order events, either in the private or the public sector.

The book is outstandingly well researched, well organized, and well written.

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HISTORY OF THE ILLINOIS CENTRAL RAILROAD. ***By John F. Stover. New York, Macmillan Publishing Co., Inc., 1975. Pp. xiv + 575. $15.00.***

Reviewed by H. Craig Miner
Associate Professor of History
Wichita State University

Former Illinois Central President William Ackerman was sad to report in 1901 that he had to give away the entire edition of a company history he had written, as it sold only two copies. The many positive qualities of John Stover's latter-day essay into the same field guarantee it a vastly more favorable reception.

As part of the Macmillan Railroads of America series, this history had to fit a format limited not so much in length (an ample 500 plus pages) as in the attention that could be given to a single topic. Stover does a good job of making that limitation a virtue. The balance of subjects treated is outstanding. Among topics isolated throughout the book are labor relations, technological innovation, the railroad's impact on urban areas (especially Chicago), and the effect of personality upon management. One of this book's special strengths is also the broad knowledge of the history of U.S. railroads in general, which Stover has gained in years of work in the field. This prevents the tunnel vision (if I may be excused the phrase in this context) that often flaws company histories. Time after time, the real stakes of I.C. strategy are revealed by relating its interests to goings-on in the board rooms of a number of other corporations. This kind of knowledge also prevents Stover from accepting oversimplified explanations, so that, despite the brief compass given some eras, the reader gets an accurate sense of the complexity of the business. Last among the techniques that help this book away from the glorified textbook class is the excellent use of statistics in a way that really illuminates the arguments of the text (93 per cent of I.C. land sold was in less than 160 acre plots; in 1887, thirty-five miles of railroad track were built every day over the country) rather than standing as obligations one sometimes wishes authors would ignore.

As a most subjective impression, I would say that the early part of the book is the most compelling in communicating the immediacy of the railroad's great undertakings, thanks probably to the use of the I.C. archives available for this period in great variety. Personalities, however, seem to emerge more strongly in the second half, due perhaps to

use of a company magazine and interviews. When a book is as original as this one, it is frustrating to be unable to determine very well the interplay of text and research through footnotes, which in this volume are most sparse. Illustrations, though, mesh very well with the narrative and some, such as the one of prim passengers on the Panama Limited following page 273, or the Green Diamond diesel after page 333, or the sinister line of steam engines in the Chicago yards after page 345, communicate a tone that no sentence could.

It is easy to forget that the 150-mile Illinois Central was in the 1850s the longest railway in the world, and it is possible to lose track of what an experiment was implied in the federal land grant policy inaugurated with that line. The book re-introduces the student to these things in a detail that, while not as definitive in special areas as, say, Paul Gates' work on the I.C. colonization policy, combines breadth and depth as well as anything on the subject. The breadth allows a reader to see the railroad as a nursery for leadership, and to collect a list of names of those connected with it that is a most impressive roll of nineteenth century talent: Abraham Lincoln, Nathaniel Banks, Andrew Carnegie, James F. Joy, George McClellan, P. G. T. Beauregard, and E. H. Harriman among them. Also, as with any careful corporate history, a number of figures emerge with whom the general reader was unaquainted, but who turn out to have made more significant contributions than the absence of their names in general works would suggest. In addition, there are introductions to the history of the many small lines that go to make up a great railway system. Here the history of the I.C. is particularly interesting since it was a north-south line and as such became involved in the post-Civil-War economic reconstruction of the southern states. From the time Stover points out that Cairo, Illinois is farther south than the Confederate capital at Richmond, to his travels (through the eyes of contemporaries) over the bumpy roadbeds of such lines as the New Orleans, Jackson and Great Northern, the southern connection provides elements of the unusual and often humorous to the narrative.

At first glance, this volume looks forbidding, not only because of its size but because of its unimaginative chapter titles, its division into separately titled sections, and its series-type regularity of outline. Yet for an attentive reader it is not only most valuable, but entertaining as well, though hardly flashy or dramatic in stylistic innovation. Its virtues are balance, completeness, clarity, and solidity of scholarship.

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THE ECONOMIC HISTORY OF THE UNITED STATES PRIOR TO 1860: AN ANNOTATED BIBLIOGRAPHY. ***Edited by Thomas Orsagh, et al. Santa Barbara, Calif., Clio Press, 1975. Pp. xiii + 100. $9.75.***

BRITISH ECONOMIC AND SOCIAL HISTORY: A BIBLIOGRAPHICAL GUIDE. ***Compiled by W. H. Chaloner and R. C. Richardson. Manchester, Manchester University Press, 1976. Pp. xiv + 130. $17.50.***

Reviewed by Richmond D. Williams
Director
Eleutherian Mills Historical Library

All bibliographies are helpful and thus are welcome to scholars and students in any field. Thomas Orsagh and his team of five graduate students and the co-compilers, W. H. Chaloner and R. C. Richardson, are to be thanked for summarizing the subject matter in this fashion. Both books are modest in tone. Both sets of compilers disclaim any pretension to completeness or depth; rather, they view these books as introductions to the literature of the subject.

Economic History of the United States Prior to 1860 organizes 799 monographs and articles from an economist's, rather than an historian's, point of view. The working out of economic issues, ideas, and problems as topics is of greater concern, *per se*, than the underlying historical development. One indication of this is the division of the subject matter into "colonial" and "post-colonial" periods. The editor, Orsagh, justifies the appearance of a new bibliography — half the size of George Rogers Taylor's 1969 publication — in terms of annotation. This feature is most effective when the comments describe content, rather than make judgments such as "important," "definitive," "popular," "good," "excellent," and "classic." The evaluation of particular works in most bibliographies is useful to the reader in direct proportion to the known authority and viewpoint of the compiler; this value is diminished in a collaborative effort of young, untried scholars. The bibliography, however, is strong enough in the systematic analysis of journal and other literature to raise expectations that similar team efforts may open up other subject areas.

The editing is very tight; there are few typographical errors or transpositions in numbers or dates. There are author and subject indices. About forty titles (5 per cent) were not examined by the team and most of these were doctoral dissertations or books with narrow geographical limits. Bibliographies and reprints are noted with care. Two omissions — E. S. Ferguson's *Bibliography of the History of Technology* (1968) and L. E. Davis and D. C. North's *Institutional Change and American Economic Growth* (1971) — raise questions of technique and coverage. The scholarship embodied in these works is cited instead in foreshadowing journal articles.

British Economic and Social History packs over 4,200 entries in 114 pages — over five times as many as the Orsagh book contains in eighty-five pages of text. There is a great deal of helpful annotation and cross-

referencing. Because of the enormous scope in time and subject matter, the bibliography is divided as follows: historiography and methodology (166 entries); England 1066–1300 (394 entries), 1300–1500 (404), 1500–1700 (1149), and 1700–1970 (1780); Wales 1700–1966 (15 entries); Scotland 1066–1700 (122 entries), since 1700 (39); and Ireland 1066–1700 (109 entries), and since 1700 (62). Dr. Richardson compiled the author index and the sections on historiography and pre-1700. Dr. Chaloner took care of the rest, except that both worked on Scotland and Ireland with help from specialists.

The joining of social and economic history has always seemed appropriate for England. The manor and the monastery were both social and economic units. This combination of historical emphases contrasts with Orsagh's conceptual, economics approach. For example, Orsagh divides twenty-four items on population into "general studies," "more specialized studies," and "mortality and natality;" and eleven migration entries into "international aspects," "internal migration," "general studies" and "Turner thesis." On the other hand, Richardson and Chaloner include 170 items under such headings as "general works," "sources," "the family," "internal mobility," "emigration," "immigration," "disease" and "local and regional studies."

After testing *British Economic and Social History* in several specialized areas, I find it to be a remarkable introduction to the literature including general works, monographs, articles from scholarly journals, printed sources, and periodicals; the latter in addition to the twenty-six major periodicals that have their titles abbreviated to save space. Some readers, who need reading glasses for farsightedness, will probably grouse about the size of the type; actually it is slightly larger than telephone book type and more legible.

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THE CANADIAN NORTHERN RAILWAY: PIONEER ROAD OF THE NORTHERN PRAIRIES 1895–1918. ***By T. D. Regehr. Toronto, The Macmillan Company of Canada Limited, 1976. Pp. xiv + 543. $27.50.***

Reviewed by James J. Talman
Professor of History
The University of Western Ontario

This work, the first comprehensive history of the Canadian Northern Railway, fills a gap in Canadian railway history. Earlier brief accounts, few in number and generally unfriendly, have appeared only in general railway histories.

In 1895 Donald Mann acquired the charter of the Lake Manitoba Railway and Canal Company. William Mackenzie soon joined him and in December 1896, they began operating 101 miles of line. Both men had already established good reputations as efficient railway contractors. In December 1898, the partners added the Winnipeg Great Northern Railway Company to their first line to form the Canadian Northern Railway Company, chartered in 1899. From then on they continued to acquire charters and leases and to build branch lines. In 1903 the

partners determined to extend to the east and by 1915 the Canadian Northern had become a transcontinental railway, which in 1917 operated 9,433 miles.

The two men operated through a private contracting partnership, Mackenzie, Mann and Co. Ltd. This company handled virtually all the early construction contracts for the Canadian Northern, subletting as required. The company in addition carried out promotional, financial and developmental functions, which the railway could not perform under its own charter, and advanced funds, being reimbursed when guaranteed bonds were earned and sold. Normally the company exchanged its bonds and stock holdings in ancillary companies it owned for Canadian Northern bonds and stocks. The incorporation of Mackenzie, Mann and Co. Ltd. enabled Mackenzie and Mann, as individuals, to become directors and officers of the Canadian Northern Railway. Financial stringency after 1912, and wartime problems, proved to be insuperable, and in 1918 Mackenzie and Mann lost practically everything when the Canadian government nationalized their properties, today part of the vast Canadian National system.

Professor T. D. Regehr does well in sorting out the many complicated charter and financial details involved in the amalgamation of lines with the Canadian Northern. In addition he has put together capsule histories of all the companies involved. He shows well the great enthusiasm for railways in Canada and the suspicion that many Canadians felt for Mackenzie and Mann during the early years of the twentieth century. He believes, however, that the two promoters were honest and did not make personal fortunes; that the making of money was a secondary consideration with them and that their prime motives were national interest and, particularly, the opening up of the northern prairies by railway lines charging reasonable rates.

Since the Canadian National Railways transferred the records of its predecessor companies to the Public Archives of Canada, the author was able, for the first time, to use the Canadian Northern Railway's own records. He consulted also relevant political papers, government publications, and newspapers. He could not gain access, under any terms, to the records of Mackenzie, Mann and Co. Ltd. that were taken over by the Canadian Bank of Commerce, as creditors, soon after Mackenzie's death in 1923. Consequently, the book does not include a detailed account of that company, most important in the history of the Canadian Northern. Unnecessary repetition mars this work. Here the publisher must accept responsibility, since a good manuscript editor, working closely with the author, could readily have cleaned up the text. The index is excellent. Anyone interested in the history of Canadian railways or railway financing in America should be interested in this book.

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THE PEOPLE OF HAMILTON, CANADA WEST: FAMILY AND CLASS IN A MID-NINETEENTH-CENTURY CITY. ***By Michael B. Katz. Cambridge, Mass., Harvard University Press, 1976. Pp. xiii + 381. $17.50.***

Reviewed by James H. Madison
Assistant Professor of History
Indiana University

This book belongs to the genre of historical community studies that in the past decade has embraced Boston, Omaha, Philadelphia, and many other nineteenth-century cities. These studies attempt to treat the full range of the urban population — the bottom as well as top of the social structure. All share an interest in sociology and social theory, and all use quantitative methods. Because of the large number of community studies that have preceded Michael Katz' and the general familiarity of his methods and purposes, one opens this book fearing more of the same and little of interest to any but the most dedicated specialist.

Many of Katz' general themes and conclusions are indeed familiar. There is enough variation, generalization, and genuine scholarship here, however, to sustain and reward all but the most impatient reader. Katz focuses on the themes of transience and inequality — the familiar work-horses of community study scholarship — but he elaborates and expands understanding of these facets of urban life, especially in discussing the apparent paradox of rapid spatial movement of a transient population in or through a rigid social structure. His analysis of inequality and social mobility is thorough and straightforward. It is based on the traditional sources (census records, assessment roles, and city directories) but includes all individuals listed rather than samples and pays particular attention to problems of historical linkage.

The chief weakness of Katz' book is the limited period covered, generally 1851 to 1861. Most community studies encompass at least three decades, and some venture over broader periods. Because he concentrates on only a single decade, Katz is limited in his ability to show change within Hamilton. This shortcoming is especially significant in that he proposes to deal with "the effects of the transformation usually called industrialization" (7), a worthwhile goal seriously compromised by study of a single decade. It is important to note, however, that this is the first book to come from the Canadian Social History Project, a large-scale, scholarly endeavor focusing on Hamilton, Ontario. The book, Katz cautions, does not represent full utilization of the data that have been gathered nor is it a final report on the project's work.

Although *The People of Hamilton* deals with only a decade, the scope is less restricted in other ways than many earlier community studies. Katz makes frequent and sustained efforts to compare Hamilton to other cities in the United States and in Europe, finding broad similarities and some significant though not fully understood variations, such as the differences between Hamilton and most United States cities in upward and downward mobility rates. His command of the secondary literature and his ability to compare and contrast the themes of his work with those of other scholars

is impressive — so impressive that this book provides an excellent introduction to the literature in the field.

Katz also ventures into subjects not yet studied with a thoroughness comparable to his discussions of social and geographical mobility. His last chapter is a long analysis of youth and coming-of-age in the mid-nineteenth century, emphasizing the shrinkage of the period of "semi-autonomy," the stage between leaving school and parents' household and marriage, a period when many young men lived as boarders and many women as servants. Katz attempts to relate this change in the lifecycle, with its prolongation of dependency, to broader changes in the family and in society and the economy. The effort is tentative but most suggestive of need for further study.

Business and economic historians will profit from Katz' chapter on the men of business and trade who constituted the top of Hamilton's social, economic, and political structure (although the author's label of "entrepreneurial class" for these businessmen has little relationship to the meaning of "entrepreneurial" as used by business historians). That Katz affirms the existence and power of a business elite is not surprising nor is his suggestion of the dependence of this elite on kinship ties or its heavy involvement in real estate speculation. What is more interesting and significant is the skill with which Katz shows the darker side of life for nineteenth-century businessmen. Critical to this effort, it should be noted, is Katz' use of the manuscript credit reports of R. G. Dun and Company for statistical and case history presentation. These records show that Hamilton's business elite were not secure in their positions of power and wealth but rather experienced a high incidence of business failure and downward social mobility: roughly 40 per cent of one outwardly stable group of businessmen failed at one time or another. Katz concludes that "turmoil, striving, anxiety, and disaster . . . frequently characterized the experience of the individual member of the entrepreneurial class" (188). He thus provides a useful and valid corrective to the more typical view of a stable business elite.

The book has no bibliography, but three appendixes, dealing with occupational classification, record linkage, and the social geography of Hamilton, this last by Ian Davey and Michael Doucet.

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THE BANK OF ENGLAND 1891-1944. ***By R. S. Sayers. New York, Cambridge University Press, 1976. 3 vols. Pp. xxxviii + 1083. $95.00.***

Reviewed by Elmus R. Wicker
Professor of Economics
Indiana University

Bank of England officials, unlike their Federal Reserve counterparts, have displayed the good judgment to have invited two monetary historians of the first rank to record the history of that formidable institution. Sir John Clapham's two volume study was published in 1944 and took the story of the Bank into the early twentieth century. R. S. Sayers continues the narrative through World War II, the end of the long reign of Montagu Norman as Governor. Sayers, like Clapham, was given un-

restricted access to the Bank's records. I am not convinced, however, that much more has been added to our understanding of the Bank's behavior. But we do have additional authority and support for what we thought we knew!

Historians of central banking may approach their task by asking three equally important questions: What did the decision makers do? Why did they do it? And what impact did their behavior have on economic activity? Both Sayers and Clapham have confined their narrative, though not entirely, to answering the first two of these questions. What is lacking are satisfactory answers to the third. Sayers might have done very much more in assessing the impact of the Bank's behavior on the domestic economy. For example, did the Bank's behavior in 1920–21 contribute to the deflation of prices? Did the inauguration of a "cheap money" policy in 1932 contribute to Britain's economic recovery? Were Bank of England policies on balance stabilizing or destabilizing? It is possible to have read Sayer's three volumes without any distinct impression emerging about how the author evaluates the behavior he has described. I suspect that economists will perhaps feel the omission more strongly than the historians.

The history of the Bank of England in the interwar years is by and large a history of Britain's external monetary relationships — preparations for the return to gold in 1925, the return to gold and an overvalued pound, the spread of the gold exchange standard, the abandonment of gold in 1931, the Exchange Equalization Fund and the management of the pound. Concern for international monetary considerations clearly dominated policy discussions within the Bank.

Much of Sayers' narrative reads like a biography of Montagu Norman, the Bank's distinguished but slightly eccentric Governor from 1921 to 1944. Norman and Benjamin Strong, Governor of the Federal Reserve Bank of New York, were crusaders, Norman perhaps a bit more so than Strong. They were both guided by a vision of an international monetary order shaped in the image of the pre-1914 gold standard. They were both determined to reconstruct that order after its collapse at the end of World War I. Their efforts in this direction can better be described as monetary diplomacy rather than monetary policy. Both of these men accepted responsibility and provided the requisite leadership at a time when governments were loath to venture into this uncharted domain. They had a naive faith in the efficacy of central banks and central banking cooperation as the proper therapy for restoring working international monetary relationships. It is indeed an open question whether Norman's missionary zeal and crusading spirit in the end did more harm than good.

It is not surprising, therefore, to discover the Bank's apparent lack of interest in purely domestic monetary questions. With the single exception of the famous conversion of War Loan stock in 1932, there is no evidence of any imaginative insight or understanding of what Keynes in the *Treatise on Money* referred to as the modus operandi of bank rate. Even the Bank's thinking about the pre-1914 gold standard was pre-Humean. Bank officials stressed the effects of bank rate on protecting the gold reserve. Nothing was said, according to Sayers, about correcting the balance of payments, the price level, or supplies of either money or credit.

In his opinion the Bank manipulated bank rate neither for the purpose of discouraging economic activity nor for the purpose of changing the supply of money. Its inventiveness was confined to devising alternative techniques for encouraging and discouraging gold flows. Norman, unlike Strong, was simply not as interested in problems of economic stabilization as he was in questions of international monetary diplomacy. No body of thought "crystallized" in the Bank at any time before World War II to provide a basis for guiding domestic monetary policy.

To the credit of the Bank, nevertheless, was its advocacy of the War Loan conversion operation in 1932 for the purpose of getting long-term rates down. These rates were adjusted downward not by massive open market operations but by application of subtle, diligent, and persuasive psychological pressures that successfully altered the market's view about the desirable level of the long-term rate. Five per cent War Loan stock was converted to a 3½ per cent basis, thus launching Britain's "cheap money" policy. Needless to say, such a policy stood little chance of success as long as Britain remained tied to fixed exchanges rates and full convertibility of the pound sterling. Only after the departure from gold in 1931 could she undertake such economic recovery measures.

What strikes the historian of Federal Reserve behavior is the sharp contrast between the styles of decision making in the Fed and the Bank of England. Within the Bank the really critical decisions were taken by relatively few men — the governor and perhaps his deputy. For example, decisions to engage in open market operations were rarely, if ever, communicated to the Committee of the Treasury, the select group of advisers to the Governor within the Court of the Bank; whereas similar decisions were matters of endless dispute and publicity among a large number of Federal Reserve officials.

Sayers' history spans the period when central banking came into its own as an art, when professionalism replaced amateurism within the leadership hierarchy of the Bank. Although Norman continued to dominate the Bank's behavior, his judgment was in later years conditioned by the expert knowledge of his advisers upon whom he increasingly relied, especially in the realm of domestic policy.

The third volume provides a useful supplement to the text in the form of documents originating in the Bank, the Treasury, and other Government Departments, roughly a third of which contains evidence of Bank officials before the Macmillan Committee in 1930–1931.

Central banking history is, of course, a specialist's subject. But its wider interest, like all economic history, is to civilize the economist and to enlighten the historian.

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THE EMERGENCE OF THE IRISH BANKING SYSTEM, 1820–1845. ***By G. L. Barrow. Toronto, Macmillan of Canada, 1975. Pp. xvi + 244. $34.00.***

Reviewed by Bruce R. Dalgaard
Assistant Professor of Economics
Lehigh University

G. L. Barrow's book on mid-nineteenth-century banking development in Ireland is an extensive, well organized work and represents a worthwhile scholarly endeavor. The book makes its contribution in details rather than in analysis, in specifics rather than evaluation.

The book is divided into seven chapters that review banking in Ireland from the crisis of the private banks in 1820 through the consolidation of the system under the Irish Banking Act of 1845. This was a noteworthy period in Irish history extending from the era of the post-war depression to the Great Famine. In sharp contrast to the rapid industralization under way in Britain, Ireland was plagued by depression and continuing unemployment. Barrow makes reference to this in his introduction but does little to integrate banking developments into the major stream of Irish economic history. The author comments that this was a period "marked by what can be seen in retrospect as a series of missed opportunities for the reflation that might have averted catastrophe" (xvi). While this statement is undoubtedly true, there is virtually no discussion on this point in the remainder of the book. Instead, Barrow concentrates on providing his readers with details.

The author begins by surveying the banking scene in the 1820s with some reference to developments before this time. The collapse of private banks in the south of Ireland is also included in the early discussion. Barrow then presents a complete picture of the Irish monetary system. He reviews currency, coin circulation, and note issues on a geographic basis and clearly explains deposits, bills of exchange, and stock transfers in Ireland. There is a limited explanation of Anglo-Irish exchanges, although Barrow does little more with this important point.

The reader now seems prepared for more substantive, analytical issues. Barrow implies that the third chapter will be more than an overview of banking, with statements in his opening paragraphs pointing to private banks as the cause of the financial catastrophe in Ireland, and follows this with the comment that the English government was "determined first to experiment in Ireland" (61) before undertaking reform in Britain. Still, this is as close as the author comes to evaluative statements. The remainder of the chapter is simply an overview of the origins of joint stock banking in Ireland. The beginning of the following chapter rekindles hope for a discussion that is more than purely descriptive. After indicating that competition prompted branch banking in Ireland, the author abandons this particular point and simply describes the expansion of Irish banking. Readers do find some attention being devoted to the currency and gold payments issue but not nearly enough. Barrow also provides us with a detailed look at the Bank of Ireland's statistical position.

By this point in the book, one is not really expecting an analytical dis-

cussion and thus is not disappointed when Barrow uses the next chapter to provide a litany of newly developing private banks. We understand more about these banks' locations than why they developed. The author makes one attempt to delve deeper into the role of banks when he discusses how the Agricultural Bank attempted to meet the needs of the Irish farming community in the 1830s. We get a clear picture of the Agricultural Bank's services, but wait for Barrow to make the next logical step and explain what myriad of factors mitigated against reflation during this period. He never does.

The final two chapters give some perspective on the growth of Irish banking. While meticulously reviewing suspensions and failures in the mid-to-late-1830s, Barrow brings out the total expansion of the banking system. We see that, in terms of numbers, banking grew from 35 offices in late 1833 to 175 in October of 1836. We are left to wonder by how much money supply circulation changed during these years and to speculate about banks' contributions to economic development. The author alludes to this when discussing circulation, reserves, and exchanges in the last chapter as he leads to a discussion of the consolidation of the Irish banking system under the Banking Act of 1845.

The short conclusion gives us a glimpse of the complexity of Irish economic problems during the mid-nineteenth century and how banking related to economic conditions. We read that note circulation had not risen proportionately to the expansion of banks and that banking improvements could not cure the basic weaknesses of the economy. Barrow briefly explains that credit availability only allowed rural Irishmen to pay their rent and landlords to invest this money overseas. The result of the disequilibrium of savings over investment was a current surplus in the international account, but internal deflation. "The fact that capital was exported rather than imported must be attributed to the owners of the money rather than to the banks" (196). Why opportunity did not beckon in nineteenth-century Ireland was the tragedy of the period that "cannot be fully answered within the limits of a history of banking" (197). Granted, this question cannot be fully answered in a history of banking, but a writer should at least address this vital economic issue.

The emergence of the Irish banking system is clearly delineated in G. L. Barrow's book. No one can fault the author for his diligence in research. His sources are primarily government documents and some of the most accepted secondary sources in banking history. The book is well written and interesting. There are over thirty pages of appendices including legislative summaries, Bank of Ireland statements of accounts, population and bank organization charts, and some deposit and note circulation data. These are seldom incorporated into the textual discussion. The book illuminates an interesting aspect of financial history and should be a welcome addition for the student of the United Kingdom's banking development.

Nevertheless, Barrow can be faulted for presenting Irish banking history as such an isolated aspect of Irish economic history. The author demonstrates a grasp of the complexity of bank accounts and titillates the reader with almost off-handed comments about the importance and impact of banks in Ireland. In every case, however, he stops short of any sub-

stantive analytical work. This may have been his intention, although he does not state it as such. This bank history is valuable but not in and of itself. When L. S. Pressnell reported on his study of English country banking, readers benefited not only from his understanding of the details of banking organization but also his insights into the relationships between banking and the economy. Barrow has accomplished only half the task. Perhaps what he has done and what he has failed to do will serve to encourage a more analytical research effort by himself or others.

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BANQUES ET BANQUIERS EN AUTRICHE AU DEBUT DU 20e SIECLE. ***By Bernard Michel. Paris, Presses de la Fondation Nationale des Sciences Politiques, 1976. Pp. 405. Cloth, 198F; Paper, 164F.***

BANKING AND INDUSTRIALIZATION IN AUSTRIA-HUNGARY: THE ROLE OF BANKS IN THE INDUSTRIALIZATION OF THE CZECH CROWNLANDS, 1873–1914. ***By Richard L. Rudolph. New York, Cambridge University Press, 1976. Pp. xii + 291. $28.00.***

Reviewed by Rondo Cameron
Kenan University Professor
Emory University

The economic history of the Habsburg Monarchy (or, after the *Ausgleich* of 1867, the Austro-Hungarian Empire), for long unduly neglected by Western scholars, has in recent years begun to claim its fair share of scholarly attention. The volumes under review, both of which originated as doctoral dissertations in the late 1960s, are outstanding examples of the maturation of this branch of study.

The similarities of the two books are striking. Both are concerned primarily with the Austrian portions of the Dual Monarchy. (Richard L. Rudolph's, in fact, concentrates mainly, as the subtitle indicates, on the Czech Crownlands of Bohemia, Moravia, and Silesia.) Both are based on extensive archival research in Vienna and Prague (and, for Bernard Michel's, in Trieste as well). And both display meticulous scholarship, lucid prose, and careful, well balanced judgments.

The differences, while interesting, are less important. Rudolph covers the entire period from the depression of 1873 to the outbreak of World War I (and, in the chapter on the Viennese Great Banks, goes back to the beginning of the nineteenth century.) Michel concentrates on the period 1898–1914, with only occasional backward glances. Rudolph, focusing on the role of the banks in developing the empire's principal industrial area, makes more explicit use of economic theory; in that connection he has derived an original index of Austrian industrial production, 1880–1913, presented in the book as an appendix, which has already been put to good use by other scholars — for example, in Brian Mitchell's *European Historical Statistics, 1750–1970* (1975). Michel, on the other hand, is concerned with the entire gamut of the banks' and bankers' activities, including the latter's social status (middling, for most) and political role (negligible).

The authors are in agreement in their principal conclusions. This fact

is reassuring — all the more so in that they were apparently unaware of one another's research, in spite of the fact that they worked in the same archives at approximately the same time, and that both published articles prior to the appearance of their books, none of which are cited by the other author. Among their conclusions, two are especially noteworthy.

One relates to the role of ethnic factors and the ideology of nationalism. The German-speaking population of the empire, in the Czech lands as well as elsewhere, had enormous advantages — political, social, and economic — and dominated the banking scene to the end of the period, but the growth and effectiveness of Czech-owned financial institutions, although belated, was far more impressive, not only within the Czech lands but throughout the empire and even abroad. While agreeing on this phenomenon, neither author satisfactorily explains it — nor, for that matter, do they explain the disproportionate role of Jewish financiers and executives in the Viennese banks. This is a prime subject for further research.

The other major conclusion concerns the role of the banks in industrial finance — and this has implications that transcend the specific case of Austria-Hungary. The authors agree that from the *Grunderzeit* of 1867-1873, ending in the financial panic of the latter year, until near the end of the century the banks did not play a leading role in industrial promotion or finance; even in the early years of the present century, when they became somewhat more active, they preferred, in Rudolph's words, "plump, juicy firms with favorable prospects, firms with the difficulties and risks of their early years already completed" (104). This conclusion, indubitable as an empirical generalization, appears to contradict the well-known "Gerschenkron hypothesis" relating the agencies of industrial development to the "relative degree of backwardness" of the economy in question. In Germany, an area of "moderate backwardness" according to Gerschenkron, the banks played the leading role in industrialization; in Russia, an area of "extreme backwardness," the powers of the state were necessary to instigate industrialization. Was the Habsburg Monarchy only moderately or extremely backward? In fact *neither* the banks nor the state were especially favorable to industrialization; the state was actively hostile (or at least uncooperative as a result of lack of understanding and sympathy on the part of its aristocratic rulers and bureaucratic officials), and the banks preferred cartelized stability to risky growth.

But why? Both Michel and Rudolph imply that traumatic memories of the crisis of 1873 deterred bankers from adopting more aggressive promotional policies, but the explanation is not convincing. Bankers of imperial Germany had equally or more traumatic memories, but that did not prevent them from successfully promoting profitable, fast-growing industries. Both authors allude to other possible explanatory factors, but without molding them into a coherent explanation. For one, the government of the Dual Monarchy was in chronic deficit for most of the period, and underwriting "safe" state loans was a more profitable employment of bankers' resources than "risky" industrial investments. Secondly, until near the end of the century mortgage loans on aristocratic estates offered

nearly the same security and high yields as state loans. Finally, and most important, the objective conditions of the Austrian economy — including natural resources, skilled labor (human capital), and especially obtuse government policies — made Austrian industries less profitable and competitive than neighboring ones, especially those of Germany. Austrian bankers, balancing "risk minimization" with "profit maximation," as Rudolph points out in his conclusion (200), were thus behaving "rationally."

The books share, though unevenly, one serious defect — not the fault of the authors, but of the exigencies of scholarly publication in this inflationary era. Rudolph's "footnotes" are relegated to the end of the book. Michel's, which in the original typescript occupy one-third of the total pages, have been omitted altogether; the curious or interested researcher will have to consult the original *thèse* deposited in the Sorbonne.

In summary, these are excellent studies, worthy complements to the only other comparable book in the field, Eduard März's *Österreicheische Industrie-und Bankpolitik in der Zeit Franz Joseph I: Am Beispiel der k. k. priv. Österreichischen Credit-Anstalt für Handel und Gewerbe* (Vienna, 1968).

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LA BANQUE NATIONALE DE BELGIQUE ET L'HISTOIRE MONÉTAIRE ENTRE LES DEUX GUERRES MONDIALES. ***By H. Van Der Wee and K. Tavernier. Brussels, Banque Nationale de Belgique, 1975. Pp. 542. No price given.***

Reviewed by Thomas F. Sheppard
Associate Professor of History
College of William and Mary

H. Van Der Wee and K. Tavernier, members of the faculty of the University of Louvain, published this book to commemorate the 125th anniversary of the founding of the National Bank of Belguim, not only to celebrate the occasion, but "to bring to light the great contribution of this institution to the prosperity of the nation" (7). In addition to the generally available printed sources on the subject, the authors had access to the extensive archives of the bank; they also worked in the *Archives Générales du Royaume* (Brussels) and the archives of the ministries of finance and foreign affairs. An extensive listing of printed sources, many of which are in English, is included. Also valuable are the seventy-one pages of detailed notes.

The book is divided into four relatively equal parts. It begins by examining the period of inflation during and after World War I and the institution of the Dawes Plan in 1924. The second section is a detailed study of the National Bank, the return to the gold standard, and the stabilization of October 1926. Probably of greatest interest to business historians is the third part, which discusses the attempts of the National Bank to formulate a coherent monetary policy to deal with the Great Depression. Van Der Wee and Tavernier also analyze the devaluation of 1935 and the increased use of planning techniques in monetary and financial policy after 1935. The fourth section is an overview of the

National Bank from 1918 to 1940 and traces the growing intervention of the state, particularly after 1937.

By 1914 the bank had become the "predominant financial and monetary institution" (416) in Belgium. In common with those of other European nations, the Belgian economy was profoundly altered by the war. One significant change was that the bank initially increased its investments outside of Belgium, although it reversed this policy by the mid-1920s. Governments began increasingly to move to exercise control and planning of the economy as a result of the Depression; consequently, the state enlarged its sphere of authority over both the National Bank and private banks. The process of "integrating the National Bank into the building of Belgium's mixed economy" (417) was well underway by 1937, although it was not fully realized until the late 1940s. The underlying theme of the book is the "institutional evolution" of the National Bank as it played a dynamic and decisive role in Belgium's economy, albeit more and more under the watchful eye of the state.

Although technical in places and geared to specialists, the conclusions of this book are valuable to those interested in the evolution of the national bank in the twentieth century, in Belgian history between the wars, and, more generally, in how one state — and bank — coped with the monumental economic, social, and political problems bequeathed by World War I, the Depression, and the threat posed by Nazi domination of the continent.

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A HISTORY OF GOLD AND MONEY 1450–1920. ***By Pierre Vilar. Atlantic Highlands, N.J., Humanities Press, 1976. Pp. 360. $18.50.***

Reviewed by J. Keith Horsefield
Carisbrooke, Isle of Wight
International Monetary Fund (Retired)

This book, written by a Professor of Economic History at the Sorbonne, and based on a course of lectures at that University, was originally published in Spanish. It is, as frankly stated in the preface, the work of a historian rather than an economist. The author has two main interests: the technology of the production of gold and silver, and the effect of the discoveries of the precious metals on prices. Almost half the book is devoted to the period from 1450 to around 1600 and another third to the two centuries that followed.

Having accounted for the activities of Columbus as European hunger for the precious metals, the author goes into great detail in describing the subsequent exploitation of the New World, first for gold and then for silver. He discusses the location of the mines, working conditions in them, and such points as the importance of the availability of mercury to the supply of silver, finally providing a series of estimates of the output both of gold and of silver. (In Appendix II these are converted into averages for groups of years from 1493 to 1850, followed by annual figures for gold and quinquennial figures for silver, down to 1910.)

We turn then to the effects of the new flow of monetary metals through Spain into the rest of Europe. Again Professor Vilar's historical approach

offers valuable insights, as in his citation of Carande's estimates of the external debts of the Spanish Crown from 1520 to 1556, which appear to have exceeded by 2,000,000 ducats the value of the precious metals belonging to the Crown that reached Spain in these same years. The stimulus thus given to the distribution of the new silver throughout Europe is obvious. Its impact is traced successively in France, Italy, and the Low Countries. After a brief discussion of the Bank of Amsterdam and the Bank of England, the book takes up the subject of the widespread monetary disturbances of the period 1650–1726. Following the latter year, in the author's view, "a certain equilibrium [had] been achieved between the production and circulation of commodities, the domestic currency of various countries, and the production and import of enough precious metals to cover international exchange" (254), which lasted, with the exception of the French Revolution and the Napoleonic Wars, for almost two centuries.

In his conclusion, Professor Vilar considers the view that fluctuations in the production of gold and silver have stemmed wholly from chance discoveries of new sources, and contrasts this with the argument that they have reflected only variations in the prices of the precious metals. He suggests that neither opinion is tenable alone, but that the truth lies in a combination of them: we have to look, he says, "for reciprocal, historical causation which combines change with necessary mechanisms of change" (342).

In view of the origin of the book, it is of course natural that most of the authorities cited by Professor Vilar should be in French, although he makes extensive use of Earl Hamilton's classic *American Treasure and the Price Revolution in Spain*. Readers of this English version will find no discussion of works to which they will naturally turn, such as Jacob's *An Historical Inquiry into the Production and Consumption of the Precious Metals* (1831), Volume II of which covers much the same ground as the author.

The translation, by Judith White, reads well, but the reader may find some difficulty in the recurrent French concept of *conjuncture*, which appears sometimes to denote a trade cycle, but sometimes nothing more specific than the economic environment. He may also trip over a few minor points where Professor Vilar, or his translator, appears to have misunderstood English conditions. For example, among the several proposals for land banks in 1695 there was none by "John Argyll" (221), the description of the ending of the South Sea crisis in 1721 (231) needs considerable revision, and the monopoly of the Bank of England in the eighteenth century was more limited than is stated on page 281. For English readers, also, there is difficulty in the author's identification of bank notes with credit rather than with money, and his attribution of bank-induced inflation to an increased velocity of circulation rather than an increased money supply (284).

There are eight maps, but no list of them is provided, and the prospective reader is advised to start by hunting them out and noting their whereabouts, as they frequently do not appear until after the discussion to which they are relevant.

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THE END OF FRENCH PREDOMINANCE IN EUROPE: THE FINANCIAL CRISIS OF 1924 AND THE ADOPTION OF THE DAWES PLAN. ***By Stephen A. Schuker. Chapel Hill, The University of North Carolina Press, 1976. Pp. xv + 444. $18.95.***

Reviewed by Shepard B. Clough
Professor Emeritus
Columbia University

Selecting a title for a book is a more difficult and a more delicate matter than meets the eye. One is torn between an urge to attract the attention of the potential reader (usually the publisher's position) and the desire to be explicit (usually the author's wish). In the case before us, a compromise was attained by using two titles, the second one being precisely what the book is all about and the main one being the eye-catcher. The prime title certainly aroused my curiosity, but at the same time made me critical of what I had in hand, for I would have chosen an earlier date for the end of French predominance, maybe 1870, or even 1815, or the industrial revolution, whatever date one wants to assign to that. Fortunately, the secondary title tended to assuage my feelings.

As I progressed with my reading, my initial quarrelsomeness vanished, for the main title has little to do with the contents of the book, or at most marks but one step in the weakening power-position of France in the world. The author is, in fact, concerned here with the problem of French inflation and of reparations, essentially in 1923 and 1924. As the blurb on the jacket states, he presents "the interweaving of diplomatic, personal, and financial materials" in an extremely detailed, thorough, competent, and well-researched way.

The author's method is reminiscent of the manner in which diplomatic historians were wont to approach a subject in international relations. He has attempted to explain the cerebrations of the *dramatis personae* — what they wanted to accomplish, what they thought and said to each other, and what they reported to their governments. To accomplish this task, Mr. Schuker has investigated and digested a carload, yes, even a trainload of documents, and presented them very cogently.

This book has made a very favorable impression on one who has taught and written extensively on the problems discussed here, who was on the scene in Europe when French inflation was rampant and reparations were the problem of the day, and who dealt with similar matters in World War II. I am not certain that I would claim that it cast much light on the fundamental problems with which it deals, but it has clarified and made sense of many positions taken and of many manoeuvres made that have puzzled me over the years. If I have any criticism of this work, it would be that the author would have made the reader's understanding easier if the large issues involved had been made more explicit — issues such as ability to pay reparations, willingness to receive them, questions of the transfer of funds, and the upshot of the whole business, i.e., that after 1924 reparation payments were possible because of American loans to Germany and that what was paid to the United States on war debts was largely from reparations. He might even have pointed out that after World War II the process by which

the United States tried to reestablish a functioning world economy was quite different from that after World War I — that aid was given this time directly to the participants in the conflict, including the defeated ex-enemies, without recourse to the gyrations employed after Versailles.

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ACCOUNTING IN SCOTLAND: A HISTORICAL BIBLIOGRAPHY. ***By Janet E. Pryce-Jones, Compiler and R. H. Parker, Annotator. Edinburgh, The Institute of Chartered Accountants of Scotland, 2nd edition, 1976. Pp. x + 112. $10.00.***

Reviewed by Thomas H. Williams
Zollinger Professor of Business Administration
College of William and Mary

Originally published in 1974, this second edition of a well constructed and interesting bibliographic history of accounting and related subjects in Scotland has been expanded to include additional entries (about 10 per cent) and a number of new library references. The prior edition, which incidentally was the first publication of the Scottish Committee on Accounting History, was favorably reviewed by several individuals, and I believe that the same high level of quality continues in the new edition. The inclusion in this edition of a limited number of location references to libraries in the United States is responsive to a reservation expressed by one reviewer of the first edition concerning its usefulness to scholars of accounting and business history in the United States. Unfortunately, the new references are not extensive enough to mitigate significantly this shortcoming. Perhaps we can hope that in the future someone will seize upon this rich source of reference material and flesh out the locational entries with a comprehensive search of major libraries in the United States.

The bibliography is composed of three major sections: Part I — Books published in Scotland, 1683–1920; Part II — Transcriptions of Accounts; Part III — History of Scottish Accounting. In addition, it includes a short essay by R. H. Parker on Robert Colinson's *Idea Rationaria* (the first Scottish book on accounting, published in 1683), and indexes to authors and titles.

Part I includes a chronological listing (ordered by the date of publication of the first edition cited) of 212 books published in Scotland from 1683 to 1920, an increase of 20 over the prior edition. One interesting addition is a book by Daniel Defoe, the author of "Robinson Crusoe," entitled "The Complete English Tradesman." Generally, the entries include short descriptive annotations, although in some cases, more expansive comments about the book and/or the author are provided. In this edition, 14 of the 212 entries contain locational references to U.S. depositories. The Columbia University library is cited in nine of these entries, but no other U.S. library is cited in more than three entries. Indeed, most of the other U.S. libraries are noted in connection with listings of two books by John Mair, published in 1736 and 1773. Parts II and III contain 86 and 64 entries, respectively. These reflect increases of 3 entries in the case of Part II, and 16 entries for Part III.

The bibliography is well organized, and after some study of the abbreviations and cross-referencing system, easy to use. The annotations are, as noted above, descriptive, and often interesting to read. And, the book, published in soft cover, is attractively designed, with a number of illustrations and pictures or portraits of authors interspersed throughout.

In view of the strong influence that accounting thought and practice in Scotland had on the early development of accounting and the accounting profession in the United States, this book is an important addition to a presently sparse bibliographic literature on accounting history. I commend it to the attention of the accounting and business historian.

• • •

DIE VORGESCHICHTE DER DEUTSCHEN EISENVERBANDE: EIN BEITRAG ZUR GESCHICHTE DES WIRTSCHAFTSPOLITISCHEN VERBANDSWESENS IM 19. JAHRHUNDERT. ***By Wilhelm Salewski. Schriftenreihe der Wirtschaftsvereinigung Eisen– und Stahlindustrie zur Wirtschafts– und Industriepolitik, vol. 13. Düsseldorf, Verlag Stahleisen, 1974. Pp. 98. 15 DM.***

PERSONALIEN UND DOKUMENTE ZUR VORGESCHICHTE DER DEUTSCHEN EISENVERBANDE. ***By Wilhelm Salewski. Vol. 14. Pp. 124. 15 DM.***

DIE STAHLWIRTSCHAFTLICHEN ORGANISATIONEN IM JUBILAUMSJAHR 1974. ***By Herbert W. Köhler;*** **STAHL UND POLITIK.** ***By Hans Dichgans. Vol. 15. Pp. 81. 15 DM.***

MANNER DER FRUHEREN DEUTSCHEN STAHLWIRTSCHAFTLICHEN VERBANDE. ***By Fritz Pudor. Vol. 16. Pp. 104. 15 DM.***

EISEN– UND STAHLUNTERNEHMEN AUS ALTER ZEIT. ***By Fritz Pudor. Vol. 17. Pp. 123. 15 DM.***

Reviewed by Ulrich Nocken
Acting Instructor in History
University of California, Berkeley

In celebration of the 100th anniversary of the founding of the Association of German Iron and Steel Industrialists, the Business Association of the Iron and Steel Industry, its descendant since 1945, has published five slim volumes on various historical and contemporary aspects of the firms, entrepreneurs, and trade associations of this industry. While varying in quality, these studies do not make any major contribution to business history, nor are they likely to fully satisfy any other audience with the possible exception of the firms considered in the books.

All four authors are, or have been, employed in high administrative positions within the steel industry trade association. Salewski and Pudor began their association activities before World War II in the press relations office and have turned to a seemingly traditional activity of retired German trade association leaders, the writing of the history of their industry and association.

Wilhelm Salewski has made the most useful contribution with his study of the early organizational attempts, culminating in the 1874 founding of the Association of German Iron and Steel Industrialists, one of the first truly modern industrial trade associations, which played an important role in German political as well as economic history. Based on research in several firm and state archives and a number of unpublished industrialists' memoirs, this well-written narrative deals with one of the least-known periods of the industry's history. The author shows that beginning in the late 1830s there was a clear and rather rapid movement from ad-hoc cooperation among industrialists on collective petitions to attempts at forming more permanent and tightly-organized associations. The goal of these efforts, high protective tariffs, remained the primary focus of all later association activities. The relatively liberal, free-trade policy of the Prussian-dominated *Zollverein* provided a constant irritant toward a higher degree of organization, which, it was hoped, would exert influence to reverse this policy. The various conflicts within the industry that presented the main obstacles to the formation of a unified association are analyzed competently.

On these and some other questions, such as the early development from a single- to a multi-goal orientation, and the growth and recruitment of professional business managers, Salewski has contributed valuable information. While useful for its informational content, the volume neglects the larger historical problems and questions. Moreover, no attempt has been made to discuss the growth of the organization in relation to the other developing interest groups, or to assess its significance to the further development of the steel industry trade association after 1874. Most importantly, the role of the associations within the context of German social and political history has remained undefined.

The results might have been different had Salewski consulted any of the important works on nineteenh-century German social history written during the last decade (H. Böhme, W. Fischer, H. Kaelble, I. Lambi, F. Zunkel). These works have greatly expanded our knowledge of the role of industrialists and trade associations in German history, but Salewski utilized only one study published since the mid-1950s. Nevertheless, both volumes — the second contains short biographies of some of the early association leaders and a collection of important primary documents — will serve a useful purpose if they can stimulate further historical research on these important beginnings of the modern industrial trade association movement. With this in mind, it would have been helpful if Salewski had provided a clearer discussion of his sources and more references to his documentation.

Fritz Pudor's volumes were obviously designed to complement Salewski's by covering the period after the formation of the modern association. But rather than providing a useful association history, they present a superficial chronicle of the various changes of names and ownership of German steel firms. While it is conceivable that someone may find this information useful in identifying an obscure nineteenth-century steel firm, it hardly fills our most pressing needs considering the many unanswered questions about the economic and social history of the steel industry.

Pudor's booklet on the German steel industry trade association leaders

contributes minimally to our knowledge. The short, oen-to-two-page biographies do not delve below the most superficial and hagiographical details usually found in the obituaries of trade journals. Furthermore, by restricting himself to those persons who have held official leadership posts, Pudor ignores other important personalities such as Louis Baare, who did not hold an official position but was the most influential figure in the formation and early years of the Association.

Of more interest are essays by Herbert Köhler, the present business manager of the Association, and by his immediate predecessor, Hans Dichgans, who later rose to become business manager of the "peak association" of German industry. Dichgans must be commended for tackling a sensitive topic that has generated intense interest among historians, political scientists, and the general public — steel and politics in its historical and contemporary setting. Dichgans' argument is in line with the tendency of business in the recent past to deny publicly its political influence and is directed against those, especially German Marxists, who consistently emphasize German heavy industry's great political power. In support of his argument, Dichgans maintains that the influence of trade associations is based solely on the persuasive power of the honest and reliable information that it supplies to the government. Although the control over expert information is an important factor, one does not have to subscribe to Marxist dogma to realize that the author is being overly modest in his evaluation of the political power of business. After all, Dichgans himself continued a long tradition, a tradition — beginning with the first business manager of the Association — of representing the interests of his industry as parliamentary deputy on the right side of the aisle.

Dichgans also attempts to clear the steel industrialists of a number of charges concerning their role in annexationism during World War I, the rise of Hitler, and the arms race. These important problems, which have fueled historical and political controversies in Germany in recent years, are treated in five pages that are, not surprisingly, as superficial as they are simplistic, hardly more than transparent apologia.

Dichgans' successor as business manager of the association and, not coincidentally, as CDU deputy in the *Bundestag*, Herbert Köhler, has contributed an informative but brief article on the various functions and organization of the present trade association. This volume could have provided a valuable final link to the study of the development of the trade association over the last century if Pudor had filled the gap between Salewski's early study and Köhler's competent analysis.

If the booklets do not make a significant contribution to the important historical issues, one of the reasons must be sought in the authors' lack of historical training. However, some of the volumes do provide interesting information for further investigation. In light of the intended purpose of publishing this series "to make more transparent the Association's activity to an interested public and at the same time to make possible a critical appraisal by the historian," (Vol. 13, p. 1) it can only be hoped that the Association will alter its restrictive policies regarding access to its archive.

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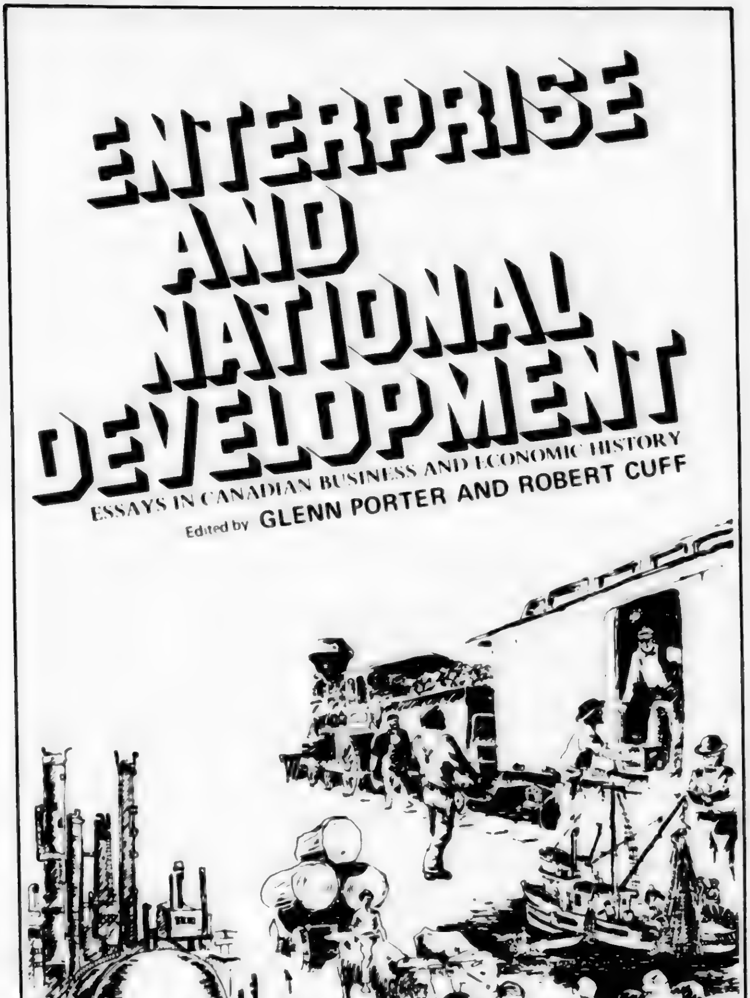

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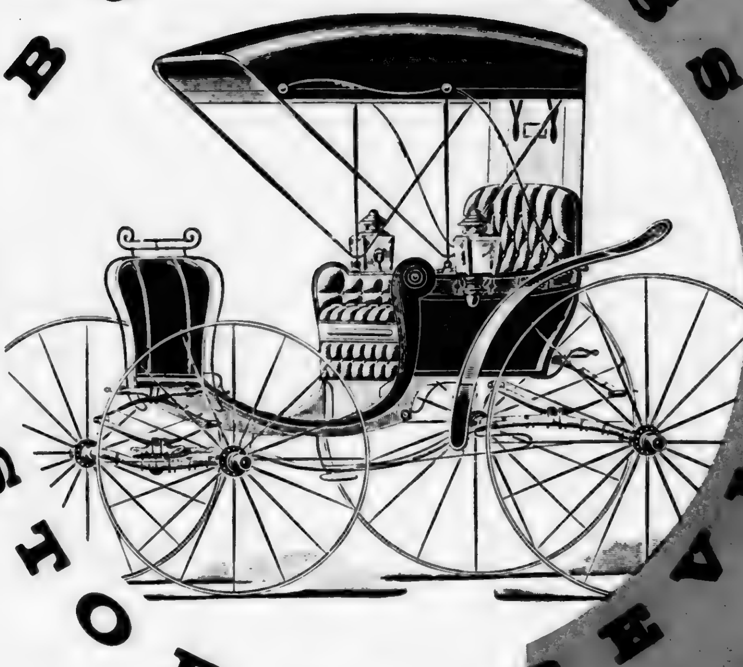

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By Michael H. Hunt
ASSISTANT PROFESSOR OF HISTORY
YALE UNIVERSITY

Americans in the China Market: Economic Opportunities and Economic Nationalism, 1890s-1931*

Historians of various "schools" have seen quite different things in the United States' long years of business activity in China. The "realists," as Professor Hunt calls them, deny that significant business opportunities existed for Americans and point to obstacles that the Chinese put in the way of trade; the "Wisconsin school," he says, emphasizes the public rhetoric of officials and businessmen who saw China as an outlet for capitalist surpluses. Citing three case histories — kerosene, cigarettes, and textiles — Professor Hunt shows that generalization is dangerous; that success depended more on businessmen's own skill, resources, and control of their domestic industry than on help derived from an imperialistically minded government.

The China market has recently engrossed historians much as it formerly entranced Americans with an eye for profitable foreign trade. Businessmen once imagined China a commercial El Dorado. The growing material needs of millions upon millions of customers would make for an inexhaustible market for all the products of American industry, from pins to locomotives. What the China trade may have ultimately lacked in profit for those who tried their hand, it made up for in the enthusiasms it inspired. Historians, attracted by all the hubbub, have pondered the reasons for the attraction of China, the reality of the market, and the impact of the American trade.

In the process of interpreting the market, the historians have split into roughly three camps. In the United States the older view is what might be called, for the sake of convenience, the realist position. Tyler Dennett, A. Whitney Griswold, and George F. Kennan

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* An earlier version of this paper was read at the 1975 meeting of the Society for Historians of American Foreign Relations in Washington, D.C. I am indebted to Sherman Cochran, Jonathan Spence, David A. Wilson, James Cole, and Paula Hunt for their comments and to Thomas Paterson for his suggestion of the general topic in the first place.

blocked it out; Paul A. Varg and Marilyn B. Young have updated it.[1] Collectively they have held that the China market was not immediately important to American interests but that it did inspire an open door rhetoric, ultimately implanted in the minds of American policymakers as an unfortunate *idée fixe*. Their studies suggest that American enterprise in China was in the main somnolent.

And indeed the statistics they have at their command seem to bear them out. Those figures show none of the spectacular growth that publicists and spokesmen of American business envisaged at the turn of the century. Down to the early 1930s, Americans did make some economic gains. But those gains developed from a base so slight as to render the advance nearly insignificant. China trade, as a share of total American exports, developed from miniscule to minor: 0.3 per cent in 1890, a little less than 1 per cent in 1910, and a little over 2 per cent in 1930.[2]

Investments, including direct business investments and holdings of Chinese government obligations, showed the same pattern of steady but unspectacular gains. In 1900 Americans held 2.5 per cent ($20,000,000) of foreign investments in China. By 1914 American holdings had increased to 3.1 per cent ($49,000,000). Thereafter, the United States, as a net creditor on international accounts, had an unprecedented opportunity to catch up with the Japanese and the war-battered Europeans. Nonetheless, by 1930 it still held only 6.1 per cent ($197,000,000) of foreign investments in China, and British and Japanese holdings ($1,189,000,000 and $1,137,000,000, respectively) dwarfed those of the United States, just as they had in previous decades. American holdings in China in 1930 constituted about 1 per cent of the nation's total overseas investment,

[1] Tyler Dennett, *Americans in Eastern Asia* (New York, 1922), chap. xxx; A. Whitney Griswold, *The Far Eastern Policy of the United States* (New York, 1938), 137–138, 146, 467–470; George F. Kennan, *American Diplomacy, 1900–1950* (Chicago, 1951), chaps. ii and iii; Paul A. Varg, "The Myth of the China Market," chap. iii in his *The Making of a Myth: The United States and China, 1897–1912* (East Lansing, Mich., 1968); Marilyn B. Young, *The Rhetoric of Empire: American China Policy, 1895–1901* (Cambridge, Mass., 1968); Young, "American Expansion, 1870–1900: The Far East," in Barton Bernstein, ed., *Towards a New Past* (New York, 1968), 176–201; Young, "The Quest for Empire," in Ernest R. May and James C. Thomson, Jr., eds., *American-East Asian Relations: A Survey* (Cambridge, Mass., 1972), 131–142; and Warren I. Cohen, *America's Response to China: An Interpretative History of Sino-American Relations* (New York, 1971), 67–68.

[2] For export figures, see Hsiao Liang-lin, *China's Foreign Trade Statistics* (Cambridge, Mass., 1974), 162–163; Yen Chung-p'ing *et al.*, comps., *Chung-kuo chin-tai ching-chi shih t'ung-chi tzu-liao hsüan-chi* [Selected statistical materials on modern Chinese economic history] (Peking, 1955), 65; and U.S. Bureau of the Census, *Historical Statistics of the United States, Colonial Times to 1957* (Washington, 1960), 537, 551.

A look at the share of the China trade controlled by Americans reveals a more dramatic advance – a quadrupling between 1891 and 1931. The American share of China's imports increased from 4.5 per cent (1891–1893 average) to 19.2 per cent (1929–1931 average). The values were $4,500,000 in 1890, $16,400,000 in 1910, and $107,000,000 in 1930, near the peak year for China's overall foreign trade.

unchanged from the figure for June 1914.[3] The realists stress that the overall performance was not what one might have expected of the world's premier financial and industrial power.

The realists have pondered the reasons for the failure of the China market to live up to the high expectations it aroused. One detailed study dealing with the pre-1914 era has blamed conditions in China – poverty, the dead weight of tradition, poor internal communications, and xenophobia – as well as business apathy and government inertia on the American side.[4] Another work, dealing with the post-World War I period, has incidentally suggested that Chinese internal instability and anti-foreign feeling together with a moderately obstructive American economic foreign policy and the indifference of Wall Street combined to check the flow of American capital to China.[5]

A second loose grouping of historians in the United States, labeled here, for the sake of convenience, the Wisconsin school, has challenged the realist view by suggesting a different angle of approach. William Appleman Williams, Walter LaFeber, and Thomas McCormick have argued that what is important is not the reality of the China market, measured in export and investment figures, but the American conviction that the market was necessary to absorb domestic overproduction and thus to help maintain the long-term stability of the capitalist order at home.[6] Political and corporate leaders came to cooperate in a program of global economic expansion in which China figured prominently. They sought to lay claim to a share of the China market before other powers closed them out and to protect their place by heading off any Chinese impulse toward economic independence. The approach of the Wisconsin school has stimulated a considerable body of works, some eclectic in interpretation, focusing on economic foreign policy and the links between Washington and Wall Street. The figures that emerge most clearly from these studies are the early concession hunters such as James H. Wilson and Willard Straight, business boosters such as John Foord of the American Asiatic Association, and

[3] Investment statistics: Charles F. Remer, *Foreign Investments in China* (New York, 1933), 285–286, 332–333, 338, 405, 548; U.S. Bureau of the Census, *Historical Statistics* 565.

[4] Varg, "The Myth of the China Market."

[5] Joan Hoff Wilson, *American Business and Foreign Policy, 1920–1933* (Lexington, Kentucky, 1971), 202–218.

[6] William Appleman Williams, *The Tragedy of American Diplomacy* (New York, 1959); Walter LaFeber, *The New Empire: An Interpretation of American Expansion, 1860–1898* (Ithaca, N.Y., 1963); Thomas J. McCormick, *China Market: America's Quest for Informal Empire, 1893–1901* (Chicago, 1967); McCormick, "American Expansion in China," *American Historical Review*, 85 (June, 1970), 1393–1396.

business statesmen such as Philander C. Knox and Herbert Hoover.[7]

Historians working in the People's Republic of China have approached the issue of the market from yet a third angle. They have started from an assumption that is still in dispute in American historiography — the primacy of economic considerations in United States China policy. They see the United States as but one of a group of rival imperialist powers responding in its foreign relations to domestic economic imperatives. They have not concerned themselves, as the Wisconsin school has, with exploring in detail the links between the economy and foreign policy. They have taken those links as given. Nor have they singled out for attention the economic rhetoric of American expansion. Their studies have instead focused on the economic impact of an American policy no less aggressive than that of other imperialists. That impact, they contend, was uniformly harmful to China. It disrupted existing agriculture and handicraft industries, oppressed developing new enterprises, and exploited native natural resources and labor.[8]

Historians still debate the general issues raised by these three schools. How important were foreign markets to American businessmen, and to what extent did any threat of domestic overproduction affect their export strategy? How much reliance did they place on government support, and how important was it to whatever successes they achieved overseas? What impact did American commercial penetration have on the economics of other countries, and how did those countries respond? This article offers some tentative answers, which others working along similar lines in other periods and other areas of the world must help round out.

[7] See, for example, Harry N. Scheiber, "World War I as Entrepreneurial Opportunity: Willard Straight and the American International Corporation," *Political Science Quarterly*, 84 (September, 1969), 486–511; George T. Mazuzan, " 'Our New Gold Goes Adventuring': The American International Corporation in China," *Pacific Historical Review*, 43 (May, 1974), 212–232; Noel H. Pugach, "American Shipping Promoters and the Shipping Crisis of 1914–1916: The Pacific and Eastern Steamship Company," *American Neptune*, 35 (July, 1975), 166–182; James J. Lorence, "Coordinating Business Interests and the Open Door Policy: the American Asiatic Association, 1898–1904," in Jerry Israel, ed., *Building The Organizational Society* (New York, 1972), 127–142; Jerry Israel, *Progressivism and the Open Door: America and China, 1905–1921* (Pittsburgh, 1971); William R. Braisted, "China, the United States Navy, and the Bethlehem Steel Company, 1909–1929," *Business History Review*, 42 (Spring, 1968), 50–66; David Healy, *US Expansionism: The Imperialist Urge in the 1890s* (Madison, Wisconsin, 1970), chap. iv (on James H. Wilson); Thomas J. McCormick, "The Wilson-McCook Scheme of 1896–1897," *Pacific Historical Review*, 36 (February, 1967), 47–58; and Helen Dodson Kahn, "Willard D. Straight and the Great Game of Empire," in Frank J. Merli and Theodore A. Wilson, eds., *Makers of American Diplomacy* (New York, 1974), vol. 2, pp. 29–54.

[8] Liu Ta-nien, *Mei-kuo ch'in-Hua shih* [A history of American aggression against China] (Peking, 1951); T'ao Chü-yin, *Mei-kuo ch'in-Hua shih-liao* [Historical materials on American aggression against China] (Shanghai, 1951); Sun Yü-t'ang, "The Historical Development and Aggressive Nature of American Imperialist Investment in China (1784–1914)," trans. Michael H. Hunt, *Chinese Studies in History*, 8 (Spring, 1975), 3–17. See also the editorial comments in the collection by Chu Shih-chia and in the several series on the modern Chinese economy, all cited below.

The conclusions here derive from an examination of private American economic interests as they functioned in the China market over four decades — from the 1890s, when the United States began to play a more active economic role in China, to 1931, when the Great Depression and Japanese encroachments cast an economic pall over the area. The article examines the trade in cotton textiles, tobacco goods, and kerosene (the leading American exports to China through the years under study here[9]), and considers why cotton goods exports first flourished, then faltered, and finally wholly collapsed, while by contrast Standard Oil and the British-American Tobacco Company (BAT) were eminently successful in penetrating the China market and holding their place there. This line of inquiry leads logically to the Chinese response to the influx of American goods, which was a mixture of acceptance and resistance, and in particular to the obstacles set up by Chinese economic nationalists. Finally, this study takes up what is currently the most controversial topic — the relation between American exporters and government policy-makers. It attempts to determine how important government support was to the success of Standard Oil, whether the government could have done more to help cotton textiles, and how the government responded to Chinese attacks on the economic opportunities of Americans.

Standard Oil

The experience of Standard Oil and British-American Tobacco reveals that aggressive and innovative marketing and a strong financial base were the essential ingredients for success in the commercial China market.[10] Standard entered the China market in the

[9] Cotton cloth and kerosene made up 80 per cent of the value of U.S. exports to China in 1895. By 1909 those same two products together with tobacco accounted for 84 per cent. By 1922 those three products had fallen to 49 per cent due largely to the decline in cotton cloth exports (off from 47 per cent in 1895 to 2 per cent in 1922). The drop was only partially offset by the increased export to China of raw cotton and tobacco products from the United States. Pan Shu-lun, *The Trade of the United States with China* (New York, 1924), 59-60, 110-111; and Ho Ping-yin, *The Foreign Trade of China* (Shanghai, 1935), 74-75.

[10] The following picture of Standard Oil operations comes primarily from Ralph W. Hidy and Muriel E. Hidy, *Pioneering in Big Business, 1882-1911* (New York, 1955), 122-123, 147, 152-153, 237, 261-263, 265-268, 531, 547-548, 552-553, 750 n. 46. See also Ch'en Chen *et al.*, comps., *Chung-kuo chin-tai kung-yeh shih tzu-liao, ti-erh chi* [Historical materials on modern Chinese industry, second series] (Peking, 1958), 324-326, 335; and G. C. Allen and Audrey G. Donnithorne, *Western Enterprise in Far Eastern Economic Development: China and Japan* (London, 1954), 100-101. On pricing, see Harold F. Williamson *et al.*, *The American Petroleum Industry* (2 vols; Evanston, Ill., 1959, 1963), I, 495, 728. On sales, see Williamson, I, 742, 752; Williamson, II, 277-278, 725; Charles F. Remer, *The Foreign Trade of China* (Shanghai, 1926), 56; Hidy and Hidy, *Pioneering in Big Business*, 415, 528; C. Yang and H. B. Hau *et al.*, *Statistics of China's Foreign Trade During the Last Sixty-Five Years* (Shanghai [?], 1931), 45-46, 67; E. M. Gull, *British Economic Interests in the Far East* (London, 1943), 56.

late 1870s. Its exports to China began to expand in 1878 and by the early 1880s had passed the 8,000,000 gallon mark. By 1889 they had reached 15,000,000 gallons, about 2 per cent of total American kerosene exports. During this period of initial involvement, Standard played a relatively passive role. It sold kerosene, its principal export item, to export houses in New York City; Standard's interest stopped at the water's edge. However, beginning in the 1890s, Standard began to involve itself more in overseas operations and by degrees assembled an effective marketing strategy. Competition from Russian oil was the chief initial challenge. Its steady encroachment on Standard's world market was a warning to pursue those markets with more vigor or risk their eventual loss. Although the home market was still growing, even during the depression of the 1890s, expansion abroad still made economic sense. The foreign market absorbed a kerosene of lower quality than could be sold domestically. Moreover, expanding world trade brought about economies of scale while offering insurance against any future fall in domestic demand. In 1890 Standard took the first tentative step toward a more aggressive strategy by handling its own shipments through a British affiliate that transported its kerosene to Shanghai and other major Far Eastern market cities. Standard followed with other innovations intended to protect its position in China against competitors. It began to market a cheaper kerosene of lower grade to match the popular Russian product, to transport and store its goods in bulk, to advertise widely the virtues of kerosene, and to introduce small, cheap lamps suitable to the market. Standard was proud that even its packing cases worked to its advantage; once emptied, they were much in demand as roofing, as raw material to be refashioned into household and farm implements, or even (in the manner of Mao Tse-tung himself) as bookshelves.

The most important of these innovations was an elaborate marketing network. Standard began sending its own agents abroad and by 1894 was represented at Shanghai and Hong Kong. In subsequent years Standard expanded its China network of competent and experienced men and gave them considerable room for local initiative. In 1899 Standard established a profitable station at Chungking, deep in the interior, and by 1905 had thirteen offices staffed by American agents.[11] By the late 1920s the firm had invested

[11] According to Ch'en Chen, Standard agents submitted regular reports not only on business conditions but also on political and military affairs in their districts, *Chung-kuo chin-tai kung-yeh shih tzu-liao, ti-erh chi*, 336. This potentially fascinating source for local history appears to have disappeared along with the rest of the firm's archives.

For a sense of the life of the Standard agent through the 1910s and early 1920s, see

$43,000,000 in its Chinese marketing system, then consisting of six major regional offices, eighteen sub-agencies, and, below them, a widespread distributing network composed of Standard's own Chinese agents and local Chinese merchants. While the agents handled sales from company warehouses in the interior, the merchants, selected by Standard and guaranteed by other wealthy merchants, sold to the ultimate consumer on a commission basis.[12] Standard relied on these Chinese merchants much as the missionaries did on their Chinese assistants in order to build and serve far-flung interests.

Standard continued to face keen competition beyond the turn of the century. Although in 1905 civil disorder seriously disrupted Russian oil production and exports, it faced a formidable new threat in the Royal Dutch-Shell alliance, which emerged between 1903 and 1907. The allies commanded not only a marketing system in China but also a nearby oil source, in Sumatra and Borneo. At times thereafter Standard engaged in intense competition, as seen for example, in the price wars of 1910–1911 and 1927–1928. But brief periods of competition alternated with what appear to have been longer periods of at least limited agreement over prices and marketing.[13] Over the long haul, Standard's initiatives in marketing together with early cuts in the cost of kerosene (by the mid-1890s to one-half the mid-1870s price) enabled it not only to maintain but to improve its position against its competitors. Through the difficult period of the 1890s Standard had held its ground in China at about 34,000,000 gallons, or roughly half the market. Thereafter it increased its share of the market while increasing its volume of sales. In 1905 it sold 80,000,000 gallons (52 per cent of the market). By 1910 Standard's exports to China totalled 96,000,000 gallons (60 per cent of the market), or roughly 15 per cent of its sales outside North America and 2.5 per cent of Standard's annual domestic refinery capacity in those years. Standard made further substantial headway in its sales in China before the war disrupted its supply lines, and then resumed its sales momentum in the 1920s.[14] In 1928

Oil for the Lamps of China (Indianapolis, 1933), a novel by Alice Tisdale Hobart, who married into the firm.

[12] A copy of a Standard contract with a Chinese merchant is in Decimal File 393.115 St2/60, Record Group 59 (Records of the Department of State), National Archives, Washington, D.C. (hereafter DF file number/document number).

[13] F. C. Gerretson, *History of the Royal Dutch* (4 vols.; Leiden, 1953–1957), III, 138, 189–191, 195–196, 249–250, 269, 289–307, and IV, 108–113, 119; George S. Gibb and Evelyn H. Knowlton, *The Resurgent Years, 1911–1927* (New York, 1956), 79; and Edith T. Penrose, *The Large International Firm in Developing Countries: The International Petroleum Industry* (London, 1968), 55–56, 104–105.

[14] After the break-up of the Standard Oil trust in 1911, its former export arm in China, Standard Oil of New York, continued operations there.

Standard shared with Texaco (which had entered the China field in the 1910s) record sales that may have reached as high as 231,000,000 gallons (88 per cent of the market).

Standard achieved ultimate dominance of the kerosene trade in the China market, but along the way it must have suffered occasional doubts about the long term importance of that market and the costs of winning it as patterns of production and consumption changed. While Standard was fighting to establish its stake in China in the late 1890s, it made the dismal discovery that declining U.S. production of petroleum and increasing domestic consumption might eventually force an abandonment of the export trade. Later, however, the spectre of a supply crisis vanished, especially as European and American consumption of kerosene declined with the growing use of gas and electricity as illuminants. At the same time, a rising demand for gasoline required increased refinery production, leaving Standard with a substantial kerosene byproduct. Standard could then be grateful that it had an assured market in China to absorb this excess. It was a market that Standard continued to enjoy until economic depression and international tensions in East Asia beginning in the late 1920s caused kerosene imports in general to decline sharply.

British-American Tobacco Company

When the BAT entered the China market, it began almost at once to repeat the pattern of well-financed and aggressive marketing that Standard had arrived at through a decade and a half of piecemeal efforts. Sherman G. Cochran has recently revealed BAT's strategy in an illuminating and richly detailed account.[15] BAT's operations in China followed the conventional but sound idea of James A. Thomas, who was to become director of BAT operations in China from 1905 to 1922: "Given China's population of 450,000,000 people, and assuming that in the future they might average a cigarette a day. . . ." [16] Thanks to James B. Duke, head of the American Tobacco Company, Thomas was to have the chance to put his idea to the test.

[15] Sherman G. Cochran, "Big Business in China: Sino-American Rivalry in the Tobacco Industry, 1890–1930" (Doctoral dissertation, Yale University, 1975), 11–16, 40–50, 56–62, 75–82, 89–90. See also Wang Ching-yü, comp. *Chung-kuo chin-tai kung-yeh shih tzu-liao, ti-erh chi, 1895–1914 nien* [Historical materials on modern Chinese industry, second series, 1895–1914] (2 vols.; Peking, 1957), I, 209–215, 220 ff; Ch'en Chen, *Chung-kuo chin-tai kung-yeh shih tzu-liao, ti-erh chi*, 92–97, 129–133, 140–141; and Robert F. Durden, *The Dukes of Durham, 1865–1929* (Durham, N.C., 1975), 76–80.

[16] James A. Thomas, *A Pioneer Tobacco Merchant in the Orient* (Durham, N.C., 1928), 42. Thomas' memoir conveys a sense of the spirit and resourcefulness of early BAT operations in China.

The motives of Duke, who was to give BAT its financial muscle, are worth considering. Direct evidence is lacking, but what indirect evidence there is suggests that Duke agreed with Thomas that China was a promising market, making up in size what it lacked in per capita wealth. He may have hoped that the already established habit of smoking, either tobacco or opium, might predispose the Chinese to try cheap cigarettes. Duke decided to take his manufacturing operations right into China, where taxes and wages were low and major rivals nowhere in sight. The alternative of concentrating on the home market was not appealing because the cigarette industry was already well developed and the threat of trust-busting hung heavy over his head. Duke turned his projected China venture to good account by forming an alliance in 1902 with the British firm, the Imperial Tobacco Company, his chief rival in foreign markets. Organized into what was known as BAT, they were to operate together on a global scale. Although registered in London and headquartered there beyond the reach of American trust-busters, the company retained an American identity. Duke held two-thirds of its stock valued initially at $24,000,000, and for its first two decades he directed its world-wide operations.

With Thomas, another American, in charge, the company immediately moved into China, which was to become its largest foreign market. BAT's agents, well paid and well trained foreigners, operated across the empire. Working through its Chinese employees and merchant associates, BAT employed innovative advertising techniques, pushed its sales along traditional Chinese channels of trade, and induced Chinese peasants to produce quality tobacco to meet the company's production needs. By 1915 BAT had investments in China totalling $20,000,000 and had become one of its two largest industrial employers. Initial production in 1902 of 1.25 billion cigarettes had climbed by 1916 to 12 billion. On sales of $24,000,000 in that latter year BAT cleared a profit somewhat in excess of $4,000,000. For BAT as for Standard, the China market was no empty myth.

The Cotton Goods Industry

The American cotton goods industry was less successful than the BAT or Standard in winning and holding a share of the China market. But its experience is nonetheless instructive in the workings of that market.[17] The gist of the story is that economic advantages

[17] Yen Chung-p'ing, *Chung-kuo mien-fang-chih shih-kao, 1289–1937* [Draft history of cotton textiles in China, 1289–1937] (Peking, 1955), 87–91. For sales and production

enjoyed by American producers in the face of British competitors up to 1905 melted away in the face of Japanese competitors thereafter. Initially, American exporters seized from the British a sizable share of the China market, especially in north China and Manchuria. While the British industry with its skilled work force and accumulated experience continued to excel in finer grades of cloth, Americans took over in the coarser goods, thanks essentially to lower wages (particularly in the southern United States) and more advanced machinery. The British also had to contend with the higher transport costs involved in importing American raw cotton as well as getting finished goods to China. Finally, the British were given to adding sizing substances to their textiles to increase their weight, a practice which led Chinese buyers to favor the sounder American products. American cotton textile exports grew dramatically in the late 1890s, and by 1905 they commanded 35 per cent of the total Chinese market for foreign cotton goods. Buoyed up by the prospect of future gains commensurate with past sales, American manufacturers and exporters became among the most vocal supporters of the Open Door and the China market. Their enthusiasm was short-lived. The American share of the trade plunged in 1907 to 5.7 per cent, half recovered by 1909 to 18.1 per cent, but then resumed its downward trend in the remaining years before World War I. By 1929 American cotton goods had all but disappeared from the China market.

The explanation for this American failure lies in the economic advantages achieved by Japanese competitors who produced cotton textiles of a similar quality and exported them to the American-dominated part of the China market.[18] The Americans did have immediately available a large supply of first class raw cotton (usually

statistics, see H. D. Fong, *Cotton Industry and Trade in China* (2 vols.; Tientsin, 1932), I, 249; P'eng Tse-i, comp., *Chung-kuo chin-tai shou-kung-yeh shih tzu-liao (1840-1949)* [Historical materials on modern Chinese handicraft industries, 1840-1949] (4 vols.; Peking, 1957), II, 457; Melvin T. Copeland, *The Cotton Manufacturing Industry of the United States* (Cambridge, Mass., 1912), 224.

[18] Ohara Keishi, comp. and ed., *Japanese Trade and Industry in the Meiji-Taisho Era*, trans. by Okata Tamotsu (Tokyo, 1957), 300, 337-340, 344-369; Seki Keizo, *The Cotton Industry of Japan* (Tokyo, 1956), 51-54, 59-62, 123-126; G. E. Hubbard, *Eastern Industrialization and Its Effect on the West* (Oxford, 1935), 50, 80-85, 111-112, 120; Yen, *Chung-kuo mien-fang-chih shih-kao*, 132-133; Allen and Donnithorne, *Western Enterprise*, 205; memo prepared jointly by the State Department's Division of Far Eastern Affairs and Bureau of Trade Relations, early spring 1908, Numerical File 12471/-1, Record Group 59 (Records of the Department of State), National Archives, Washington, D.C. (hereafter NF file number/document number); Jack Blicksilver, *Cotton Manufacturing in the Southeast: An Historical Analysis* (Atlanta, 1959), 24, 113-116; Lars G. Sandberg, *Lancashire in Decline: A Study in Entrepreneurship, Technology, and International Trade* (Columbus, Ohio, 1974), chaps. x-xi; W. A. Graham Clark, *Cotton Goods in Japan and Their Competition in the Manchurian Market* (Washington, D.C., 1914), 226-278; and Ralph M. Odell, *Cotton Goods in China* (Washington, D.C., 1916), 109-116, 142-156.

accounting for somewhat more than half of basic production costs), while the Japanese producers had to look abroad for their supplies because home grown cotton was an inferior type and insufficient to meet demand. However, the Japanese partially overcame this disadvantage by making large advance purchases at substantial savings, by securing a discount from Japanese shippers, and by blending low priced Indian and Chinese cotton with the more expensive American variety. The cost advantage, perhaps slightly in favor of the Americans to this point, shifted clearly in favor of the Japanese once the cotton passed through the stages of spinning and weaving. American wages were several times higher than in Japan, and although American workers remained more productive, Japanese labor began to narrow the gap as it gained experience and as the rapidly developing industry progressively introduced after 1905 a new generation of advanced Japanese-designed machinery. The Japanese price advantage became dramatic, in the range of 20 to 30 per cent, once goods were marketed. Japanese producers and exporters coordinated their activities. They secured low shipping rates (including a government subsidy) for their exports. And they sent them directly to specific marketing areas in China while American goods not only traveled a longer distance at greater cost but usually reached their ultimate destination in a roundabout way, through Shanghai. The Japanese, unlike the Americans, carefully cultivated their market in China. They regulated supply to meet demand, aggressively marketed their products, eliminated costly middlemen, and gladly sold on credit.

The structure and strategy of the American industry stood in the way of any effort, even partial, to offset the overall Japanese advantage.[19] While the Japanese achieved a notable industrial coherence and coordination, the American industry remained highly fragmented and competitive. Efforts to give the industry more cohesion through trade associations were in general a failure. Part of the reason was the intense rivalry for the home market. While the Japanese pursued customers abroad far more numerous than those at home, the American industry had immediately at hand a market that was large, still growing, and protected by a substantial tariff. Production figures illustrate the way domestic opportunities

[19] Louis Galambos, "The Trade Association Movement in Cotton Textiles, 1900-1935," *Explorations in Entrepreneurial History*, 2nd series, 2 (Fall, 1964), 31-55; Fong, I, *Cotton Industry*, 59, 251-252, 268-269; Copeland, *Cotton Manufacturing*, 155-158, 170-171, 221, 226-230; Blicksilver, *Cotton Manufacturing in The Southeast*, 22-40, 55-56; R. Robson, *The Cotton Industry in Britain* (London, 1957), 358; Frank W. Taussig, *The Tariff History of the United States* (8th ed.; New York, 1931), 243, 266-267, 433, 466-467, 513.

overshadowed foreign possibilities for Americans but not for the Japanese. For example, in 1910–1913 the U.S. industry produced 5.8 billion square yards of cloth for home consumption and only 0.4 billion (6 per cent of total output) for export. By contrast, 0.8 billion square yards of Japanese cloth stayed at home (one-seventh the comparable American figure) and 0.2 billion (20 per cent of total output) went abroad. The figures for 1926–1928 show the same disparity between the Japanese and American home markets (1.3 versus 7.7 billion square yards) and the greater Japanese dependence on exports (1.4 billion square yards [52 per cent of total output] versus 0.5 billion square yards [6 per cent of total output]).

The struggle for the domestic market eventually put the China market beyond the grasp of American producers. No single firm would risk its stake at home by diverting capital to start up marketing operations in China or by engaging in costly small-scale production of goods tailored to meet Chinese tastes. Thus, in practice, the China market remained peripheral to American producers. Only one of the major American producers opened an office in China; the rest relied on an expensive system of distribution through American, British, or Japanese export agents in the United States. Their goods, once in China, might in turn pass through the hands of several intermediaries before reaching the ultimate consumer. Without agents abroad, American producers were out of touch with market conditions. They were inattentive to proper shipping methods, and on occasion they accepted foreign orders when domestic demand was low only to cancel when it revived.

The contrasting experiences of American cotton textiles on the one hand and Standard Oil and the BAT on the other suggest the importance of ample capital resources and central control over production and marketing for firms expanding into the China market. For Standard's Rockefeller and BAT's Duke (operating in the United States through the American Tobacco Company) foreign operations developed from mastery of the domestic market. Each applied profits and experience accumulated at home to the search for the right overseas marketing formula and to the struggle against foreign challengers. By contrast, in the cotton industry no single firm or group of firms dominated the domestic market the way Duke's tobacco and Rockefeller's oil trusts did. Instead the ease of entry of new firms kept the number of producers competing for the home market large. Had an American textile combine developed, it might indeed have controlled more of the China market and for a longer period. After edging out the British in north China and

Manchuria, it could have built up a marketing system, shifted its factories to China to lower labor costs, and underpriced the infant Japanese textile industry or forced it to some accommodation. But the size of the American market and the nature of the American industry obstructed these initiatives so that economic advantage shifted to Japan earlier and more dramatically than it might otherwise have.

Chinese Response

The antithesis to the active efforts of firms such as BAT and Standard Oil to penetrate the China market was the vigorous and sometimes successful efforts of Chinese nationalists to block, blunt, or exclude American enterprise.[20] The Chinese impulse was in many ways comparable to the spirit of protectionism that gripped other countries. But China labored under the exceptional burdens of the unequal treaties of the nineteenth and early twentieth centuries, which had compromised her sovereignty and deprived her of formal control of dynamic sectors of her economy.

Chinese economic nationalists pursued two different strategies. One was essentially economic. It involved encouraging competitive Chinese enterprise and buying out foreign firms, or harassing and obstructing them in order to offset some of their treaty advantages (such as fixed low tariffs, exemption from internal taxes, and freedom from Chinese legal control). These efforts bore directly and sometimes heavily on American enterprise. There are a number of examples familiar to students of Chinese-American relations. In 1877 Li Hung-chang arranged the purchase of Russell and Company's steamship line; in 1882 Chang Chih-tung and Tso Tsung-t'ang blocked the establishment of an American cotton spinning plant in Shanghai; and in 1905 Chang and a protest movement in Hunan forced the American China Development Company to give up its concession for the Hankow-Canton Railway.[21] Mining regulations, first issued in 1898 and repeatedly revised down to 1930, reflected growing hostility to foreign control.[22] These regulations,

[20] The literature is rich. Good places to start are Mary C. Wright, "The Rising Tide of Change," in her *China in Revolution: The First Phase, 1900–1913* (New Haven, Conn., 1968); Edward Rhoads, *China's Republican Revolution: The Case of Kwangtung, 1895–1911* (Cambridge, Mass., 1975); Li En-han, *Wan-Ch'ing shou-hui k'uang-ch'üan yün-tung* [The movement to recover mining rights in the late Ch'ing] (Taipei, 1963); Chao Feng-t'ien, *Wan-Ch'ing wu-shih-nien ching-chi ssu-hsiang shih* [Economic thought during the last fifty years of the Ch'ing period] (Peiping, 1933); Chi-ming Hou, *Foreign Investment and Economic Development in China, 1840–1937* (Cambridge, Mass., 1965), 1–4, 130–134, 150–152; and Roger V. Des Forges, *Hsi-liang and the Chinese National Revolution* (New Haven, Conn., 1973).

[21] On Russell and Company, see Kwang-chin Liu, *Anglo-American Steamship Rivalry in China, 1862–1876* (Cambridge, Mass., 1962); Chung-kuo shih-hsüeh hui, comp.,

together with the movement to recover mines already in foreign hands, were enough to give pause to any Guggenheim whose interests strayed from Mexico to the subsoil riches of China. While diplomats protested all these measures as violations of treaty rights, provincial officials backed by the central government succeeded between 1906 and 1910 in driving out American mining investments, which had concentrated on the coal, gold and silver resources of northern China and Manchuria.[23]

Chinese economic nationalism took a second course, essentially political. It consisted of a direct attack on the treaties that provided the favorable framework for foreign enterprise in China. The Chinese aimed at nothing less than the restoration of their economic as well as their political sovereignty. Scholar-officials discussed treaty revision in the late nineteenth century, and the government and an increasingly nationalist public embraced it in the early twentieth century. In the 1920s the attack on the treaties shifted its emphasis from revision to abrogation. Anti-imperialism became widespread and intense. T'ang Shao-i, himself educated in the United States and once a strong proponent of close ties between Peking and Washington, reflected this mood in his introduction to a highly popular contemporary indictment of economic imperialism in China. In it he condemned "capitalistic imperialism," the unilateral open door, and the unequal treaties, which together enabled foreigners to control China's destiny and exploit the wealth of her people.[24] By 1931 the Nationalist government had won formal tariff autonomy, had unilaterally denounced extraterritoriality, and was taxing foreign business. And in such areas as foreign trade, banking, aviation, and mining, where foreign enterprise was promi-

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Yang-wu yün-tung [The "foreign matters" movement] (8 vols.; Shanghai, 1961), VI, 16ff; and Chung-yang yen-chiu yüan, chin-tai shih yen-chiu so, comp., *Hai-fang tang* [Records on maritime defense] (9 vols.; Taipei, 1957), "Kou-mai chuan p'ao" [Purchase of ships and guns], part 2, pp. 939ff. On the Shanghai plant, see George E. Paulsen, "Machinery for the Mills of China: 1882–1896," *Monumenta Serica*, 27 (1968), 32–42; U.S. Department of State *Foreign Relations of the United States, 1883*, 129–203 passim; and Sun Yü-t'ang, comp., *Chung-kuo chin-tai kung-yeh shih tzu-liao, ti-i chi, 1840–1895 nien* [Historical materials on modern Chinese industry, first series, 1840–1895] (2 vols.; Peking, 1957), 162–165. On the railway concession, see Li En-han, "Chung-Mei shou-hui Yüeh-Han lu-ch'üan chiao-she" [Sino-American negotiations over the recovery of rights over the Hankow-Canton railroad], *Chi-k'an* [Bulletin of the Institute of Modern History, Academia Sinica], no. 1 (1969), 149–215.

[22] Wang, *Chung-kuo chin-tai kung-yeh shih tzu-liao, ti-erh chi, 1895–1914 nien*, I, 26–28; Hou, *Foreign Investment*, 109–111; Allen and Donnithorne, *Western Enterprise*, 152.

[23] Chung-yang yen-chiu yüan, chin-tai shih yen-chiu so, comp., *K'uang-wu tang* [Records on mining affairs] (8 vols.; Taipei, 1960), VI, documents 2324, 2327, 2336, 2338–2339, 2361–2374, VII, documents 2469–2472; Lu Feng-shih, comp., *Hsin-tsuan yüeh-chang ta-ch'üan* [A new compilation of treaty terms] (Shanghai, 1909), ch. 13, 40–41.

[24] Preface, p. 9, of Ch'i Shu-fen. *Ti-kuo chu-i t'ieh-t'i hsia ti Chung-kuo* [China under the imperialist heel] (Shanghai, 1925).

nent, the Chinese government and Chinese businessmen were playing a notably assertive role.[25]

The impact of Chinese economic nationalism can best be illustrated in the cases of the three American industries discussed above. The challenges faced and the responses devised varied with each firm. The BAT faced distracting competition from the Nanyang Brothers Tobacco Company. This Chinese firm got its start during the anti-American boycott of 1905, emerged as a serious competitor during WWI, and later used the anti-British boycotts of the 1920s to advance its own sales at the expense of its foreign rival. The BAT responded to the threat with price wars, with propaganda playing up Nanyang's ties to a Japan encroaching on China, and with an attractive merger offer. Nanyang held out against what it feared to be a foreign takeover on the theory that "it is better to be a chicken's beak than an ox's buttocks," but it was never able to overcome the BAT's economic advantage and shake its commanding position.[26] The BAT encountered no other opposition except for sporadic local hostility to its sales campaigns – a mix of advertising and the distribution of samples. For example, in 1908 and 1909 Chinese in Foochow and Hsiangyang (Hupeh) charged that foreigners offered cigarettes as a substitute for opium and that both harmed the nation no less than the individual consumer.[27] However, attempts at equating cigarettes with China's humiliating experience with opium failed to deter those taken by the cheap pleasures of tobacco.

No Chinese firm emerged to challenge Standard Oil. Rather, the resistance that Standard did encounter came initially from officials sympathetic to complaints that imported kerosene was displacing native vegetable oils as the principal source of illumination. For example, in 1887 Chang Chih-tung, the governor general of Kwangtung and Kwangsi, requested a ban on kerosene imports on the grounds that they were hurting the peasants who grew peanuts, the processors who extracted oil from them, and the merchants who sold it. "The livelihood of our people is at stake and we are indeed obliged to prohibit [kerosene]." Through the 1890s and 1900s Chinese erected an imposing combination of obstacles – municipal regulations against the use of kerosene, the refusal of merchant

[25] Allen and Donnithorne, *Western Enterprise*, 50, 55, 74, 76, 82, 118, 142–143, 249.

[26] Cochran, "Big Business in China," 33–39 and chaps. iii–viii; Y. C. Wang, "Free Enterprise in China: The Case of a Cigarette Concern, 1905–1953," *Pacific Historical Review*, 29 (1960), 395–414; and the entry for Chien Chao-nan in Howard L. Boorman, ed., *Biographical Dictionary of Republican China* (New York, 1967–71), I, 364–365.

[27] Reports in NF 14732.

guilds to handle it, opposition to the establishment of storage tanks, and illegal taxation. Ultimately, however, kerosene's price advantage over vegetable oils and the better light it gave assured its wide and rapid spread in the interior.[28] At the same time, growing demand overseas for Chinese vegetable oils – both as a food stuff and as an industrial component – diminished the force of opposition to kerosene and may simultaneously have heightened the appeal of the foreign substitute by driving up the price of the traditional product. Exports of vegetable oil climbed steadily from the early 1890s and spectacularly from the late 1900s and into the 1920s.[29]

Acceptance of kerosene, however, did not signify Chinese satisfaction with Standard's influence in China. When in 1914 and 1915 it sought an oil concession in Shensi, an aroused press and the representatives of five provinces accused the government of Yüan Shih-k'ai in Peking of selling into foreign hands a resource crucial to China's future development. They suspected that Standard's only intention was to block the exploitation of potential sources of supply. Public pressure undoubtedly contributed to the ultimate collapse of any deal between Yüan's government and Standard over the issue.[30] Standard's position remained dominant into the following decade, however, and Chinese nationalists could only decry "the superstitious faith" in the superiority of foreign kerosene that obstructed the development of China's own oil resources.[31]

Chinese economic nationalism also manifested itself in efforts to impose taxes on foreign firms. The resulting recurrent battle against taxation was a common thread running through the experiences of both BAT and Standard Oil. The records of the State Department and the Chinese foreign office are filled with protests against these minor exactions as violations of treaty rights.[32] An intriguing but

[28] P'eng, *Chung-kuo chin-tai shou-kung-yeh shih tzu-liao*, II, 166–170, 477–478. The quote is from p. 167. See also: Remer, *Foreign Trade*, 56–57, 94–95, 157; and Hidy and Hidy, *Pioneering in Big Business*, 137.

[29] Remer, *Foreign Trade*, 95; Hsiao, *China's Foreign Trade Statistics*, 96: P'eng, *Chung-kuo chin-tai shou-kung-yeh shih tzu-liao*, II, 342–352; and Yang Ta-chin, *Chin-tai Chung-kuo shih-yeh t'ung-chih* [A guide to modern Chinese industry] (2 vols.; Nanking, 1933), I, 648.

[30] Noel H. Pugach, "Standard Oil and Petroleum Development in Early Republican China," *Business History Review*, 45 (Winter, 1971), 452–473: Ch'en Chen, *Chung-kuo chin-tai kung-yeh shih tzu-liao, ti-erh chi*, 327–331; and DF 893.00/2124 (on opposition in Changsha). See Samuel C. Chu, *Reformer in Modern China: Chang Chien, 1853–1926* (New York, 1965), and the entries in Boorman, *Biographical Dictionary*, for Hsiung Hsi-ling and Chou Tze-chi – all for evidence of the economic nationalism in Yüan's cabinet.

[31] Ch'eng T'ien-tou, *Shih-yu li-cho* [Deliberations on petroleum] (Chung-shan district [Kwangtung?], 1930), chap. iii. This work was published by the Industrial and Commercial Petroleum Company [Kung-shang lien-yu kung-ssu].

[32] Lu, *Hsin-tsuan yüeh-chang, to-ch'üan*, ch. 13, 16–18; Wang Yen-wei and Wang Liang, comps., *Ch'ing-chi wai-chiao shih-liao* [Historical materials on late Ch'ing diplomacy] (Peking, 1935), Hsüan-t'ung years, ch. 22, 27–31; Chu Shih-chia, comp., *Shih-chiu*

difficult question is: how frequently did the firms' American or Chinese agents actually acquiesce or reach a *modus vivendi* with local officials rather than become embroiled in dispute, and how often did the firms gain satisfaction when they resorted to the cumbersome, time-consuming processes of diplomacy? One might in fact surmise that both firms must have carefully weighed the possible costs of asserting their treaty rights. They risked irritating local officials and local opinion and thus put in peril their vulnerable system of marketing in the interior – all with no guarantee that similar abuses might not recur in the same place, in the next district, or a thousand miles away.

Standard at least did indeed walk a fine policy line. This conclusion emerges from a close examination of State Department records (helpful in the absence of direct Standard Oil documentation) for the period 1906-1914.[33] The firm faced problems in every coastal province from Kwangtung in the south to Kirin in the far north as well as in all the immediately adjoining interior provinces. The most persistent issues – raised by students, local officials and gentry, provincial officials, and merchant guilds – involved taxation and Standard's storage of oil near heavily populated areas. Chinese critics of the firm singled out its bulk storage tanks in particular as a substantial fire hazard but also as a prominent symbol of foreign intrusion. Faced with protests against their storage facilities, Standard agents generally appear to have bided their time until local passions cooled and they could work out with local authorities some mutually satisfactory agreement.

The issue of local taxes kept Standard agents steadily involved in direct negotiations with Chinese officials. The tenaciously held posi-

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shih-chi Mei-kuo ch'in-Hua tang-an shih-liao hsüan-chi [Selected archival materials on American aggression against China during the nineteenth century] (2 vols.; Peking, 1959), 350-351, 404-406; and numerous entries in U.S. Department of State, *Foreign Relations of the United States* (e.g., 1884, 1887, 1888, 1892, 1893, 1906, 1908, 1911, 1914, 1926).

[33] See materials in NF 5260/40; NF 379/3-4; NF 13188/4; NF 8424/-16, 21-27; NF 788/164-167, 231-238; NF 8602/ 10, 20-23; NF 3543/4-5; DF 693.116/43, 44, 47, 49, 54, 55; DF 393.115 St2/43, 45, 47, 50-51, 61, 64, 65, 69-71; DF 893.00/357, 389, 795, 2124.

The BAT experience is not instructive on the relationship between businessmen and Washington. Even though for the first two decades the firm's management was largely American – Duke, who guided its global operations (as well as provided the bulk of the start-up capital), and Thomas, who headed its China operations – the company looked primarily to the British Foreign Office for support and protection. British registry and the existence of its headquarters in London help account for this particular diplomatic orientation, but it may also reflect a calculation that the Foreign Office was more likely than the State Department to be solicitous and effective in guarding interests in China. In 1920 Thomas cut his ties with BAT, and in 1923 Duke died and control passed into the hands of the British members of the board, thus further strengthening the British character of the firm and its propensity to look to the Foreign Office.

tion of the Chinese through this period was that kerosene was taxable once it passed from foreign hands and crossed the boundary of a narrowly defined treaty port area. They came up with a marvelous variety of imposts to apply to the kerosene business: internal transit taxes (the notorious likin tax, sometimes called a "destination tax" to avoid offending foreign sensibilities); "landing taxes" (also called "royalties") on kerosene being offloaded at a river or sea port; "consumption taxes" running around 2-3 per cent on sales by Chinese merchants to consumers; and "special mercantile income taxes" applied to Chinese kerosene merchants. Standard appears to have often accepted these levies in part because prolonged negotiations hindered company business and imperiled good will but also because its Chinese associates were vulnerable to local pressure, especially the official threat of imprisonment. One apparently popular compromise solution was for Standard to pay a "voluntary tax" generally in the form of a contribution to local charity. Thus, the company avoided a confrontation without formally abandoning treaty rights.

But Standard could on occasion mishandle its dealings with local officials or by miscalculation take a stand on treaty rights that it would come to regret. The Wuchow controversy (1909-1911) shows what could happen when an impatient, pugnacious agent failed to take account of local sentiment.[34] In this case, the agent not only provoked Chinese opinion but also challenged the views of the foreign commissioner of customs by insisting on storing kerosene in a hulk in the city harbor. In the end Standard bowed and agreed to arrange for oil storage on shore under safer conditions. A more dramatic confrontation developed in 1925 when the Nationalist government, then based in Canton, imposed a special tax on kerosene. Although no more objectionable than taxes Standard had previously acquiesced to, the firm retaliated by imposing an oil embargo. It perhaps calculated that an early and firm stand against the rising tide of economic nationalism in the South would forestall sweeping demands in the future. The gamble failed. With popular feeling running high, the Canton government stood firm and in fact broke the embargo by getting kerosene from the Soviet Union and American independents. Standard's appeals to the State Department were ineffectual. Washington would do no more than lodge perfunctory protests. Standard finally realized that a firm stand was more likely to lose than preserve its south China market and opened talks with the

[34] DF 393.115 St2/28 42 passim.

Nationalists. In 1926 and again in 1927, they concluded agreements assuring markets for one and revenue for the other.[35]

Standard did not always consult with the State Department on these local issues, and when it did the two did not always see eye to eye. For example, in the Wuchow affair the American minister labeled the conduct of Standard's agent "offensive" and "unjustifiable." When Standard resorted to a policy of temporization and delay in another oil storage case (Wuhu, 1906-1908), the Nanking consul, the American minister, and the State Department itself all expressed irritation that the Chinese were getting away with an infringement of treaty rights that also injured American prestige.[36] Diplomatic and consular officials generally deprecated Standard's payment of taxes because they felt that it was necessary "to take a strong stand so as not to encourage the Chinese."[37] But they could not stop Standard from carrying out its own policy – especially one so eminently successful in economic terms – even if it involved compromising ostensible treaty rights.

The outcome of the taxation issue suggests the paradoxical relationship between Standard Oil and BAT on the one hand and China on the other: to conquer the China market they, to a degree, had to surrender to it. This meant not only that their agents had to learn the language and customs of the people, that their products and advertisements had to appeal to Chinese tastes, and that their goods had to travel along established Chinese marketing patterns and through the hands of Chinese merchants. It meant also that they had to be solicitous of "public opinion." This included cultivating good will by contributing flood and famine relief, sponsoring agricultural schools, and waiving indemnity claims for company losses inflicted by "banditry."[38] At the very least they had to avoid unnecessary antagonism, a delicate task while simultaneously engaged in fending off Chinese competitors and the Chinese government's sallies against their privileged position. "Ameliorative imperialism" is the apt term

[35] David A. Wilson, "Principles and Profits: Standard Oil Responds to Chinese Nationalism, 1925-1927," *Pacific Historical Review*, forthcoming.

The BAT also agreed to taxation by the Nationalist government at this time. But the Nationalists, by taxing BAT at a rate lower than its Chinese competitor, in effect sacrificed economic nationalism to gain badly needed revenue. For the BAT settlement, see Cochran, "Big Business in China," 351-353, 363-364; and John Gittings, *The World and China, 1922-1972* (New York, 1974), 28-29. More general accounts are John Carter Vincent, *The Extraterritorial System in China: Final Phase* (Cambridge, Mass., 1970), chap. v; Arthur N. Young, *China's Nation-Building Effort, 1927-1937: The Financial and Economic Record* (Stanford, Calif., 1971), 22-23; and Hou, *Foreign Investment*, 105, 148.

[36] NF 1164/43-49, 55, 69-70.

[37] Julean Arnold (consul, Amoy) to the State Department, January 14, 1911, DF 393.115 St2/43.

[38] DF 393.115 St2/70; DF 893.00/795.

John Gittings has suggested to describe the behavior of firms under the pressure of Chinese nationalism.[39] Those firms consulted their own interests and cautiously made whatever concessions and compromises they thought necessary in order to continue operations. Temporary restrictions were easier to accept than the possibility of being, in time, shut out completely.

While Chinese economic nationalism only slightly hampered the activities of the BAT and Standard, it had much more serious consequences for the American cotton goods trade. Chinese nationalists placed a heavy emphasis on creating a domestic textile industry in order to turn back the tide of foreign manufactured imports. Provincial officials, such as Li Hung-chang and Chang Chih-tung, cooperated with prominent entrepreneurs such as Chang Chien in laying its foundations. After a period of development by fits and starts in the 1880s and 1890s, production mounted.[40] The Chinese industry concentrated in precisely the area of American strength, low quality fabric. And with distinct advantages in labor costs and proximity and sensitivity to the market, it was able, together with Japanese imports, to drive the Americans from the field. In an ironic twist the Americans, having lost their market for finished goods, began to supply raw cotton to the growing industry in China.[41] In the late nineteenth century, the Chinese had begun to domesticate long-stem American cotton because it was better suited than Chinese cotton to mechanical processing.[42] Even so, the total Chinese output varied widely in quality and failed to keep up with domestic demand. American farmers made up a substantial part of this deficiency beginning in the 1920s. And, to cap the irony, the Chinese began at the same time to send a small trickle of finished cotton goods back to the United States.[43]

[39] Gittings, *The World and China*, 33.

[40] Yen, *Chung-kuo mien-fang-chih shih-kao*, 98–107; Sun, *Chung-kuo chin-tai kung-yeh shih tzu-liao, ti-i chi, 1840–1895 nien*, 1037ff; Samuel Chu, *Reformer in Modern China*, 17–21; Ho, *The Foreign Trade of China*, 497; Hou, *Foreign Investment*, 173–177; Albert Feuerwerker, "Handicraft and Manufactured Cotton Textiles in China, 1871–1910," *Journal of Economic History*, 30 (June, 1970), 346; and Ramon H. Myers, "Cotton Textile Handicraft and the Development of the Cotton Industry in Modern China," *Economic History Review*, 2nd series, 18 (December, 1965), 627–628.

[41] Ho, *The Foreign Trade of China*, 74–76; Fong, *Cotton Industry and Trade in China*, I, 46–50, II, 35; Yang and Hau, *Statistics of China's Foreign Trade*, 66.

[42] Li Wen-chih *et al.*, comps., *Chung-kuo chin-tai nung-yeh shih tzu-liao, ti-i chi* [Historical materials on modern Chinese agriculture, first series] (Peking, 1957), I, 890–895; Sun, *Chung-kuo chin-tai kung-yeh shih tzu-liao, ti-i chi*, 922–925; *Yang-wu yün-tung*, I, 556.

[43] Fong, *Cotton Industry and Trade in China*, II, 67. American manufacturers of textile machinery enjoyed a boom in sales to the growing Chinese textile industry during and immediately after World War I, but in general the industry in China showed a distinct preference for British machinery. Fong, I, 79–81, 84.

The Role of the U.S. Government

What role did the United States government play in furthering American enterprise in China and overcoming the obstacles to its success? The most obvious point to make is that both government and private enterprise wanted to keep the China market open. Thus Washington laid claim for its nationals to the privileges established by the unequal treaties, including freedom from Chinese tariffs, taxes, and legal control. Policymakers, who disagreed on occasion over the terms and the nature of major investment projects in China, all consistently defended the essentials of the treaty system as necessary for foreign entrepreneurs. Not even the intense Chinese nationalism of the 1920s could cause them to abandon their basic position; rather, they simply tried to ride out the Chinese challenge to the status quo. Secretary of State Charles Evans Hughes held firm on both tariffs and extraterritoriality down through 1924. His successor, Frank B. Kellogg, yielded on tariff autonomy but, along with the Hoover administration that followed, refused to abandon extraterritoriality. Even Kellogg's tariff concession was conditional. He said in effect in the 1928 agreement with China that although the United States would not fight to preserve the status quo, it would concede only as much as China could wring from the other powers. While historians and contemporary treaty port interests have judged Kellogg's policy indulgent toward China, to the Chinese themselves it must have seemed at best unhelpful and at worst unyielding.[44]

It would be a mistake, however, to conclude that the U.S. government's support of the treaty system in China made an important contribution to the successes scored by Standerd and the BAT in the period under consideration here. In fact, the experience of these two most active of American firms suggests that direct government support was marginal to long term success and to the solution of daily problems. The government did nothing to turn the attention of these businesses abroad — unless trust-busting was intended as a subtle incentive for the BAT to expand overseas — and it gave neither force

[44] I draw my information but not my interpretation from Dorothy Borg, *American Policy and the Chinese Revolution, 1925-1928* (New York, 1947); Wilson, *American Business*, 215-216, 221; Vincent, *The Extraterritorial System;* Arthur Young, *China's Nation-Building Effort*, 17-18, 426; and Akira Iriye, *After Imperialism: The Search for a New Order in the Far East, 1921-1931* (Cambridge, Mass., 1965). For the Chinese perspective, see P. Cavendish, "Anti-imperialism in the Kuomingtang, 1923-28," in Jerome Ch'en and Nicholas Tarling, eds., *Studies in the Social History of China and South-east Asia* (Cambridge, England, 1970), 23-56; and Warren I. Cohen, "The Development of Chinese Communist Policy Toward the United States, 1922-1933," *Orbis*, 11 (Spring, 1967), 219-237.

nor direction to their foreign operations. It could not assure those economic advantages that flowed from efficient production and vigorous marketing. It did not obtain from the Chinese government any significant special treatment beyond generally accepted treaty rights, nor could it check competition, whether foreign or Chinese, or for that matter the mounting nationalist sentiment against economic imperialism.

The unequal treaty system was indeed crucial in Standard's and BAT's economic penetration of China because it gave scope to the firms' financial and managerial strength. But the American government deserves little credit for creating or maintaining this commercial opening. Britain was the architect of this system of Sino-foreign relations and, along with Japan later, its mainstay. By contrast, the United States did not play an important role because it had comparatively few ships in East Asian waters through the 1920s, lacked an economic and strategic stake significant enough to justify extensive involvement, and by good fortune could leave the chief responsibilities to others while enjoying all the rights (under the most favored nation provision of the treaties).

The American government was in general committed from the 1890s through the 1920s to what might be called a passive open door. It was a far cry from the active open door policy of vigorous support for American trade and investment that trade expansionists called for around the turn of the century. Their program included prominently revival of the merchant marine, improvement of the consular and diplomatic service, and encouragement of American banking overseas.[45]

Each of these areas of weakness was evident in China. Ships flying the American flag were infrequently seen in the China trade in this period. From the 1890s through the 1910s the American share of total foreign shipping hovered around 1 per cent, increased to about 6 per cent in the following decade, and then declined thereafter. The best known lines with American ties were Robert Dollar's and the Pacific Mail Steamship Company. However, during World War I Dollar shifted operations to Canada and then in 1925 sold out to the British, while the Pacific Mail abandoned China service briefly in 1915 and quit altogether in 1925. Congress, to whom the ailing ship-

[45] Albert K. Steigerwalt, *The National Association of Manufacturers, 1895–1914: A Study in Business Leadership* (Ann Arbor, Mich., 1964); Burton I. Kaufman, "Organization for Foreign Trade Expansion in the Mississippi Valley, 1900–1920," *Business History Review*, XLVI (Winter 1972), 444–465; Kaufman, "The Organizational Dimension of United States Economic Foreign Policy, 1900–1920," *Business History Review*, 46 (Spring, 1972), 17–44; Carl P. Parrini, *Heir to Empire: United States Economic Diplomacy, 1916–1923* (Pittsburgh, 1969); and Wilson, *American Business*.

ping industry looked for support, not only refused subsidies but insisted on labor and safety standards regarded by the shippers as a major obstacle to profitable operations.[46]

As trade expansionists alleged, the American consular and diplomatic service in China was indeed weak. It lacked the professional quality that distinguished the British and the Japanese, whose economic stake in China justified the talent and money that went into their consulates and legations. The American Congress, parsimonious and – like the Executive – committed to the spoils system, long stood in the way of improvements in the American service. Political affiliation and personal contacts were more important than merit in questions of appointment, promotion, and tenure in office. The few consuls with knowledge of the Chinese language and Chinese commercial affairs could claim better pay and perquisites by going into business. An exporter turning to an American consul for advice would more likely than not find him either just arrived or about to leave, unfamiliar with or perhaps plainly bored by mundane trade questions, out of touch with economic conditions in his district, or simply disgruntled by lack of recognition. After World War I the Bureau of Foreign and Domestic Commerce of the Department of Commerce made an effort to supply business information. But the Bureau had only a few agents to send to China; its understaffed Far Eastern office in Washington had to deal with India, Australia, and New Zealand along with China and her neighbors; and in any case it had to contend with State Department resistance to this encroachment on the commercial duties of the consular service.[47]

Finally, American banking failed to take vigorous root in China. Those banks that did establish themselves there did not make major investments, which might have created leverage for American exports. Rather they devoted themselves primarily to short-term financing of trade, dealings in foreign exchange, and accepting deposits from American citizens, firms, and government agencies in China. The American bank with the greatest staying power was the International Banking Corporation, a latecomer by European stan-

[46] John B. Hutchins, *The American Maritime Industries and Public Policy, 1789–1914: An Economic History* (Cambridge, Mass., 1941); Remer, *Foreign Investments*, 338; Hsiao, *China's Foreign Trade Statistics*, 254–255, 259; Yen, *Chung-kuo chin-tai ching-chi shih t'ung-chi tzu-liao hsüan-chi*, 241, 244; John H. Kemble, "A Hundred Years of the Pacific Mail," *American Neptune*, 10 (1950), 5–25.

[47] Thomas G. Paterson, "American Businessmen and Consular Service Reform, 1890's to 1906," *Business History Review*, 40 (Spring, 1966), 77–97; Michael H. Hunt, *Frontier Defense and the Open Door* (New Haven, Conn., 1973); Laurence F. Schmeckebier and Gustavus A. Weber, *The Bureau of Foreign and Domestic Commerce* (Baltimore, 1924), 26–27, 38, 41, 85, 108–109.

dards when it set up shop in Shanghai in 1902. Later taken over by the National City Bank, it elaborated a string of eight branch offices but never got beyond its bread-and-butter business of financing trade and offering Americans in China a place to put their money. It did not attain the prestige of the European banks or stir up the cautious American investor. Other American-connected banks appeared on the scene in a post-war flowering of activity, but they proved short-lived. One, connected with Guaranty Trust Company of New York, collapsed as a result of heavy exchange losses five years after its establishment. A second slipped from American to Chinese control in 1932, while a third, formed jointly by Chase National and Chinese merchants trading with the United States, fell into the hands of the merchants in the mid-1920s and then closed in 1930. In general after 1927, the foreign banking business was hurt by competition from modern Chinese banking institutions, which the Chinese government favored with its funds and business.[48]

The program of the commercial expansionists would have been, in any case, largely irrelevant to the success of the BAT and Standard Oil or to the failure of cotton goods exports. Standard solved the shipping problem by building up its own fleet of ocean going vessels, registered in Britain, Germany, and elsewhere abroad.[49] It also had a fleet of launches flying the American flag for use in Chinese waters. The BAT seems not to have suffered either, although it did depend on the transport of tobacco leaf from the United States for its factories in China. While it is true that cotton textile exporters were hurt by their failure to ship goods directly to the North China market, it is difficult to determine whether they continued trans-shipment through Shanghai because their main offices were there or because they were compelled to by the inadequacies of maritime service. In any case, shipping was not central to the problem of American cotton exporters.

Neither BAT nor Standard had to put much reliance on published commercial reports prepared by American consuls in China because they had their own overseas sources of business intelligence. Both kept agents in the field who, in comparison with the run-of-the-mill American consul, were certainly more attuned to the needs of their

[48] Mira Wilkins, *The Emergence of Multinational Enterprise: American Business Abroad from the Colonial Era to 1914* (Cambridge, Mass., 1970), 107; Allen and Donnithorne, *Western Enterprise*, 109, 118; Clyde W. Phelps, *The Foreign Expansion of American Banks: American Branch Banking Abroad* (New York, 1927), 37, 146–49, 212; Hsien K'o, *Chin-pai nien-lai ti-kuo chu-i tsai-Hua yin-hang fa-hsing chih-pi k'ai-k'uang* [A general account of the issuance of paper currency in China by imperialist banks in the past hundred years] (Shanghai, 1958), 52, 57–58, 98–104, 172–173, 183–185; Pan Shu-lun, *Trade of the U.S. with China*, 324–328; Frederic E. Lee, *Currency, Banking and Finance in China* (Washington, D.C., 1926), 102–108, 115, 118–119.

[49] Hidy and Hidy, *Pioneering in Big Business*, 531.

firms and were probably better trained and more experienced in commercial affairs. Standard's dissatisfaction with the quality of the consular service comes out in a 1911 exchange between the firm's experienced political liaison man, William H. Libby, and Knox's State Department. When State solicited export firms for testimonials on consular assistance, Libby's reply was eloquently silent, except for a suggestion that he get together personally with the head of the consular bureau for a talk.[50] Although multinationals such as Standard did support upgrading the consular service, still stronger support came from small exporting firms that could not afford permanent agents of their own abroad and thus perforce depended on consular reports. Cotton goods producers and exporters are a good example of this class of business ill-represented abroad. However, the basic problem of cotton goods was not lack of information but rather the structure and strategy of the industry, which prevented producers and exporters from making effective use of what good consular advice they did get.

With financial facilities as with field representatives, BAT and Standard were themselves able to meet any need that developed. Their ample financial resources enabled them to grant their Chinese agents favorable credit terms; to fund new construction, oil exploration, or large-scale experiments in tobacco cultivation; and to undercut rivals in price wars. Banking facilities were irrelevant, on the other hand, to the troubled American cotton goods trade. It operated on a cash basis, hamstringing middlemen and hurting sales. But producers and exporters, themselves lacking the surplus capital to cover sales on credit, could not have borrowed from banks, either in China or the United States, without increasing the price of their already competitively disadvantaged product.

The limited effort that the government made specifically on behalf of the China trade in these decades contrasts sharply with the bursts of interest and activity at the highest level in promoting and directing the flow of capital to China. Washington and the Peking legation repeatedly sought to invigorate American investment interest. The McKinley Administration supported an American claim to a railway concession in the late 1890s, and Theodore Roosevelt opposed giving it up in 1905. The Taft Administration organized a group of prominent Wall Street firms — the same ones that had sold out the American railway concession in 1905 — to build up an independent

[50] Libby to the State Department, February 6, 1911, DF 160/9. Singer, a pioneering American-based multinational, similarly depended on its own staff instead of consuls. Robert B. Davies, "'Peacefully Working to Conquer the World': The Singer Manufacturing Company in Foreign Markets, 1854–1889," *Business History Review*, 43 (Autumn, 1969), 318.

stake in Manchuria and to share with the other powers in investments in China proper. Although Woodrow Wilson withdrew support from this first financial consortium, he reversed himself in 1917 and the United States stayed with the moribund second consortium into the 1930s. These officially supported and inspired investment plans failed to boost the American investment stake. American financiers remained reluctant to make a long term commitment to China, especially in the 1920s when the bulk of previously made loans went into default. Washington-backed investment plans also failed because they were heavily freighted with political considerations, which sank precisely those investment plans that policymakers most wanted to succeed. Financiers teamed with the government bridled against frustratingly prolonged and inconclusive diplomatic negotiations; their experience in the long run must have fortified their resistance to the lures of the China market.[51]

Three Interpretive Approaches

The cases dealt with above suggest certain strengths and weaknesses in the several interpretive approaches to Americans in the China market. The realists correctly stress that many businessmen indulged in rhetoric and fantasies. But in explaining their failure to realize their dreams, the realists have overemphasized the difficulties of the China market.[52] They stress the limits on trade imposed by low per capita income. But both Standard Oil and the BAT demonstrated that the collective purchasing power of the country was great even though individual income was low. The realists also stress that the market was difficult to penetrate because China's transportation system was primitive and Chinese tastes and business methods unfamiliar. But here again Standard and the BAT both adapted themselves to Chinese conditions and proved both Chinese transport and Chinese merchants satisfactory means of reaching the extensive interior market. The profits were there for the taking for any businessman possessed of adequate capital and persistence and flexibility in reaching out to Chinese customers. Finally, the realist position exaggerates the difficulty of doing business in China by

[51] William R. Braisted, "The United States and the American China Development Company," *Far Eastern Quarterly*, 11 (February, 1952), 147–165, and G. Kurgan-Van Hentenryk, *Léopold II et les groupes financiers belges en Chine: La politique royale et ses prolongements (1895–1914)* (Brussels, 1972), 226–254, 436–550, both on the Hankow-Canton railway concession lost in 1905; Hunt, *Frontier Defense*, chaps. xi–xiv, on Taft-Knox financial diplomacy; and Wilson, *American Business*, 202–207, on the second consortium.

[52] The realist case is systematically argued in Varg, "The Myth of the China Market," 37–43.

distorting economic nationalism into "stubborn," "intense," and "inveterate" hostility to foreign enterprise. Once again, the BAT and Standard experiences indicate some opposition stemming from a mixture of nationalism and economic self-interest but also considerable acceptance from Chinese consumers and merchants. Perhaps the explanation for the disappointing performance of Americans in the China market has less to do with a poor, impenetrable, and hostile China than the realists would have us suppose.

The Wisconsin school, on the other hand, preoccupied with exploring the significance of the pervasive rhetoric of economic expansion, has in the process slighted the issue of economic performance. If American businessmen imagined China a major market, why did so few follow up with serious efforts to tap it, and why did even fewer succeed? The Wisconsin school historians cannot easily answer because they have chosen to focus on the public face of business and on the dramatic but insubstantial projects of speculators and economic adventurers such as James H. Wilson and Willard Straight. Their studies shed little light, for example, on Standard's solid, steady advance into the China market or, on the other hand, on the demise of the cotton goods trade. Finally, the Wisconsin school's emphasis on the close links between public policy and private interests may be overdone. The cases here suggest that successful firms depended on the government only within narrow limits. By giving more credit to government support than is due, the Wisconsin school may ironically be underestimating the economic power of American firms and the importance of economic over political advantage.

Historians in the People's Republic have done a service by their reminder that American firms did have major operations in China. But their conclusions about the deleterious impact of these firms require careful examination on a case-by-case basis and must be tempered by an awareness of the complexity of the issue and the fragmentary nature of the evidence that the historian has to work from.[53] Of their charges against foreign firms, that of exploitation is the most difficult to come to grips with. Standard, the BAT, and even American textile firms made money in China. What is extraordinary in this case is not the repatriation of profits made in international commerce but rather the inability of the Chinese government under

[53] For general challenges to the conclusions of this school, see Hou, *Foreign Investment*; Hou, "The Oppression Argument on Foreign Investment in China, 1895–1937," *Journal of Asian Studies*, 20 (August, 1961), 435–448; Andrew J. Nathan, "Imperialism's Effects on China," *Bulletin of Concerned Asian Scholars*, 4 (December, 1972), 3–8; and Rhoads Murphey, *The Treaty Ports and China's Modernization: What Went Wrong?* (Ann Arbor, Mich., 1970).

the restraints of the unequal treaties to halt or in some way control a drain that could over the long term have had serious economic and social repercussions in China.

A second charge leveled against American enterprise is that it disrupted the Chinese economy. Kerosene displaced vegetable oils as an illuminant. BAT drew peasant tobacco growers into the dangerous net of dependency on commercial agriculture.[54] Imported American cotton goods deprived Chinese handicraft producers of a market and hence of a supplementary source of income that for some must have been crucial to livelihood.[55] But in the final analysis it is difficult to conclude with any assurance that disruption spelled net injury for the Chinese economy or even for particular classes of Chinese.

For example, along with imported cotton cloth came machine-spun yarn (at first manufactured abroad and later also in China). Stronger than homespun, machine-spun yarn revitalized handicraft weaving and enabled it to retain into the 1920s a large share of the rural market against competing machine-made cloth, whether of foreign or of domestic origin. To take another example, kerosene offered an attractive alternative to vegetable oil illuminants. It gave a stronger and steadier light and at lower cost, especially as the world market price of vegetable oils soared. Kerosene lighting lengthened the work day for many peasants engaged in handicrafts during the long winter period of indoor confinement. Growers of peanuts and other vegetable oil sources lost whatever cause for complaint they had against foreign competition as the export price for their crops climbed steadily to ever more attractive levels. And a growing vegetable oil trade kept processors busy. Some small-scale processors may have suffered as large-scale processing plants, established by foreign and Chinese capitalists, took an increasing share of the business along the coast (especially in Manchuria, where over half the large-scale, mechanized processors were located by 1931). However, in the interior traditional small-scale processing still dominated.[56] Merchants affected by the change may have protected

[54] For an early and wide-ranging application to the BAT of this Chinese critique of foreign enterprise, see Hsi Ch'ao, "Ying-Mei yen kung-ssu tui-yü Chung-kuo kuo-min ching-chi ti ch'in-shih" [BAT encroachment on China's national economy], in Chung-kuo ching-chi ch'ing-pao she, ed., *Chung-kuo ching-chi lun-wen chi* [Collected essays on the Chinese economy] (Shanghai, 1936), first series, 91–99. The recent treatment by Gittings, *The World and China*, 17–30, is in the same vein. By way of comparison, see Cochran's (in "Big Business in China") somewhat more cautious conclusions on the BAT's impact drawn from ampler evidence.

[55] For a discussion of the impact of imported cotton yarn and cloth on handicrafts, see Myers, "Cotton Textile Handicraft," 616–625; Feuerwerker, "Handicraft and Manufactured Cotton Textiles," 339–348, 373–378; and Bruce L. Reynolds, "Weft: The Technological Sanctuary of Chinese Handspun Yarn," *Ching-shih wen-t'i*, 3 (December, 1974), 1–19.

[56] Liu Hu, "Shih-nien lai chih chih-wu yu cha lien kung-yeh" [The vegetable oil ex-

themselves by shifting to kerosene trade as overseas demand priced vegetable oil out of their local market. In sum, it is by no means a safe conclusion that the economic impact of imported kerosene was uniformly or even substantially deleterious. Product substitution and commercialization of agriculture have been commonplace in the modern global economy. Chinese historians may really be reacting less against change and more against the way it was forced upon China. Whereas many countries caught up in the international economic web had the power to harness foreign trade to serve national welfare, China under the unequal treaties could not.

Americans in the China market face a third charge – of oppressing native Chinese industry. The impact of imported cotton goods on the traditional handicrafts industry has already been noted; however, with respect to the development of a modern Chinese textile industry, foreign imports posed no obstacle. Chinese entrepreneurs could enter the market without fear of running up against a foreign monopoly or oligopoly. Their survival depended largely on their ability to maintain a price advantage over their rivals. The situation was different in the Chinese tobacco and petroleum industries. The BAT got a head start on its Chinese rivals and kept it. Standard's control of production and ability to sell at a loss for an extended period posed a considerable threat to any potential Chinese kerosene distributor. That Standard also blocked the development of Chinese petroleum resources is a charge Chinese have repeatedly made. Standard is supposed to have sought control of potentially productive areas simply to prevent their development and to have intentionally minimized, in public at least, the value of those areas. A good case can be made, however, that Standard was not at fault. Promising centers of production were remote from centers of consumption and hence would have involved transport costs that at the time were prohibitive. Exploratory well tests did not encourage Standard's experts. And political conditions – growing Japanese influence in north China and hostility in Shensi to foreign operations – were a further deterrent.[57] Had production in China been feasible, Standard would probably have seized the chance to develop an Asian source of petroleum comparable to what Royal Dutch-Shell already had in the Dutch East Indies. The ultimate failure to develop China's oil resources seems to rest not so much on Standard's reputed

tracting and refining industry in the last decade], in T'an Hsi-hung, ed., *Shih-nien lai chih Chung-kuo ching-chi* [China's economy in the last decade] (3 vols.; preface 1948; Taipei reprint), I, 252.

[57] Ch'en Chen, comp., *Chung-kuo chin-tai kung-yeh shih tzu-liao, ti-san chi* [Historical materials on modern Chinese industry, third series] (2 vols.; Peking, 1961), I, 649–662; Ch'en Chen, *Chung-kuo chin-tai kung-yeh shih tzu-liao, ti-erh chi*, 328.

opposition as on China's own lack of investment capital, technological expertise, and national stability. Once more it is worth noting that the treaties imposed by the powers enfeebled the Chinese government and in this case hindered its intervention on behalf of oppressed native producers and distributors. In fact, under the protection of the treaties BAT and Standard developed such economic power, easily translated into political terms, that they were able to deal with the Chinese government nearly as equals.

Chinese historians, while perhaps overdrawing the negative impact of foreign enterprise, certainly do underrate the success Chinese had in some cases in meeting the challenge. Foreign firms possessed undeniable advantages derived from the unequal treaties. But, as indicated above, economic nationalists persistently fought against those advantages and enjoyed some notable successes in blunting American economic penetration. By slighting those early efforts, Chinese historians fail to do justice to a heritage of economic nationalism to which the People's Republic has fallen heir.

Conclusion

A number of general conclusions emerge from the material presented here. The China market was not vast; neither was it impenetrable, however. The potential for trade did exist for those firms or industries with an attractive product superior to its competition. But to realize a profit they had to apply money and effort in considerable quantities. Government support, in practice minimal, appears to have made little difference to the successful, and probably would have given no significant boost to those in trouble. The inactivity of the American government, however, should not overshadow the importance of the structure of the unequal treaties within which American firms operated and from which they derived ample benefit. But the unequal treaties did not make China an economic *tabula rasa* nor did they render her impotent and exposed. Successful firms neither transformed nor seriously deranged the Chinese economy. They did have to accommodate themselves to established Chinese business practices, the preferences of their customers, and the force of Chinese nationalism.

These tentative generalizations and the criticisms of the various schools of interpretations outlined above suggest the need not just for more work on Chinese-American (or for that matter any set of bilateral) economic relations but for work with a new focus. New studies might look at the social and political as well as the economic impact of American firms abroad, including their interaction with

foreign customers, agents, and antagonists. They might gauge the importance of United States government policy and diplomatic protection to their ultimate success and, by placing diplomacy in the framework of economic calculation, serve as a useful corrective to the common practice of looking at businessmen in a political context. Finally, studies of this sort would allow us to measure the gap between the rhetoric of American expansion and its reality as well as to evaluate the importance to business strategists of foreign markets as a vent for excess production.

A new focus will require not only new questions but new sources. To understand what made major business firms and figures tick we must look to business archives, the papers of directors and agents, and business histories as well as to the more familiar government documents and papers of public men. Recent studies strongly suggest that such an approach can lead to fresh perspectives.[58] But problems remain. Some sources are undoubtedly lost, and others may long remain inaccessible. Some topics, to be studied at all, may have to be approached tangentially. For example, Cochran in his work on the BAT had access to only a limited body of material originating with that company. However, the published private papers of BAT's chief Chinese rival, the Nanyang Brothers, enabled him to follow BAT operations in China in considerable detail.[59] To make the most of these sources we need students with a variety of skills. While the diplomatic historian can adequately deal with a businessman as an actor in the foreign policy arena or as one of the voices of public opinion, the skills of the economic historian are necessary to develop a fully rounded picture of the businessman as an active participant in the contest for overseas markets. Furthermore, skills in area studies are necessary to tackle the kinds of questions regarding overseas impact raised most pointedly here by Chinese historians. The challenge of combining these approaches — as applicable to other parts of the world as to China — is great, but the rewards of a fuller understanding of the powerful economic component in American foreign relations should be even greater.

[58] In addition to the works by Cochran ("Big Business in China") and Wilkins ("Emergence of Multinational Enterprise") cited above, see Mira Wilkins, *The Maturing of Multinational Enterprise: American Business Abroad from 1914 to 1970* (Cambridge, Mass., 1974); William H. Becker, "American Manufacturers and Foreign Markets, 1870–1900: Business Historians and the 'New Economic Determinists,'" *Business History Review*, 47 (Winter, 1973), 466–481; and Becker, "Foreign Markets for Iron and Steel, 1893–1913: A New Perspective on the Williams School of Diplomatic History," and his exchange with Harold Schonberger, *Pacific Historical Review*, 44 (May, 1975), 233–262.

[59] Chung-kuo k'o-hsüeh yüan, Shang-hai ching-chi yen-chiu so, and Shang-hai she-hui k'o-hsüeh yüan, ching-chi yen-chiu so, comps., *Nan-yang hsiung-ti yen-ts'ao kung-ssu shih-liao* [Historical materials on the Nanyang Brothers Tobacco Company] (Shanghai, 1958).

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Machines, Markets, and Labor: The Carriage and Wagon Industry in Late-Nineteenth-Century Cincinnati*

Students of the innovative process in American manufacturing have emphasized the scarcity of labor and the consequent need for labor-saving machines. In the late nineteenth century one of the country's largest manufacturing industries was the production of carriages, which, in its most important center, Cincinnati, was organized on a mass production basis. But Professor Duggan finds that problems of the quantity and quality of labor were secondary in carriage factories, compared to other factors such as fuel costs, factory space, and the need to stabilize the quality and price of vehicles marketed by the industry as a whole.

In 1850, world economic power rested unquestionably in the British Isles. Even before stretching out to build an empire, Britain had surpassed all other countries through its early lead in industrialization and its predominance in iron, coal, and textiles, the most vital sectors of growth. Yet, by the early twentieth century, the United States had supplanted Britain and other rapidly growing countries of Western Europe in established industries as well as in newer activities such as steel, electricity, and mechanical goods.[1]

Scholars have offered many reasons to explain this American phenomenon. Most recently attention has focused on technological change. In his labor supply hypothesis, H. J. Habakkuk has developed a comprehensive interpretation, which runs as follows:[2] To under-

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[1] J. R. T. Hughes, *Industrialization and Economic History* (New York, 1970), 135–136.

[2] In his seminal work, Habakkuk argued his point particularly for the early nineteenth century. Although noting that the labor supply situation in both Britain and the United States changed somewhat later in the century, he nonetheless felt that basic differences continued to exist. H. J. Habakkuk, *American and British Technology in the Nineteenth Century* (London, 1962), Chs. 4–6.

stand economic growth, we must understand what motivated entrepreneurs to innovate. Great Britain, as the world's economic leader in the nineteenth century, and the United States, as the world's most rapidly growing economy, are cases in point. Entrepreneurs in both countries innovated for many reasons but the crucial difference between them was in labor supply. The United States had much skilled labor because education was available and barriers to occupations were few. However, the United States suffered a much greater relative shortage of unskilled labor because workers could find jobs easily, especially in farming. Responding to this shortage of unskilled labor, American employers avidly adopted labor-saving technology that ultimately pulled the United States ahead of Great Britain.

This hypothesis, that labor shortage stimulated more rapid technological change in the United States, has spawned perceptive criticism. Some authors find the argument compelling but applicable only to skilled rather than unskilled labor. Others have dismissed the argument for lacking theoretical or empirical justification. To a large number, however, Habakkuk's train of thought has provided a comprehensive framework for understanding differences in Anglo-American economic growth. The questions that need resolving lend themselves to case studies. To determine why managers sought new technologies, we should look at a rapidly growing industry in a rapidly growing area. In such an environment, only managers who made the right decisions would thrive.

Charged by a joint resolution of Congress in 1894 to investigate "whether changes in the creative cost of products are due to a lack or a surplus of labor or to the introduction of power machinery," Commissioner of Labor Carroll D. Wright undertook extensive studies of labor and technological change. His research swept comprehensively, covering not only broad sectors such as agriculture and transportation, but also narrow fields within manufacturing. He analyzed 84 separate manufacturing industries, for a total of 88 activities covering 672 separate pieces of production. He found the carriage and wagon industry especially advanced. So important was this industry in Wright's study, that carriage and wagon materials comprised 40 of the 672 units studied, more than any other industry.[3] The industry ranked high economically as well as technologically. By 1905, carriage and wagon making occupied 60,722 workers in 4956 establishments producing $125,332,976 worth of goods. Value of product doubled in twenty-five years. Because of the diversity of components, the industry sent pervasive backward linkages into the

[3] *Thirteenth Annual Report of the Commissioner of Labor, 1898.* Vol. I, 5, 14, and 160.

economy. Among supplies needed were axles, glass, lamps, leather, lumber, machinery, paint, springs, and tops.[4]

Beginning in the 1870s mechanization led to a radical transformation of production techniques that spurred the industry for the rest of the century. In 1865 a woodworker used augers, chisels, and a maul to cut tenons by hand, but in 1895 a tenoner used a tenoning machine. Within the same years, a dashboard stitcher using a special machine replaced the trimmer who used needle and awl. In 1865 every step in buggy-making was done by hand. Within thirty years most steps were done by machine.[5] Such a leap in the use of power occurred primarily because of developments in metal working. By the turn of the century, according to Wright: "Most of the articles included in this industry were made of iron or steel, and the hand work was largely performed by blacksmiths. The machine work was done by machines now common to the iron industry, such as power shears, drops and dies, trip hammers, trimming machines, automatic machines for bolts, etc."[6]

The Cincinnati Carriage Industry

Among the several centers of carriage and wagon production, Cincinnati, Ohio, stood prominently. The city grew from fewer than 1,000 persons in 1800 to 161,000 by 1860, and the labor force doubled from the Civil War to 1900.[7] So many immigrants flooded in from Britain, Western Europe, and other parts of America that as early as 1850 only about half the residents of the city had been born in the United States. Germany and Ireland alone supplied about 40 per cent of the population. The largest city west of the Alleghenies by 1860, Cincinnati developed an international reputation in machine goods and other industrial wares throughout the rest of the century. Serving the booming farm market, Cincinnati ranked first in the nation in value of product in carriages and wagons, followed by New York, Philadelphia, and Chicago.[8] In 1891 Cincinnati was so far ahead that

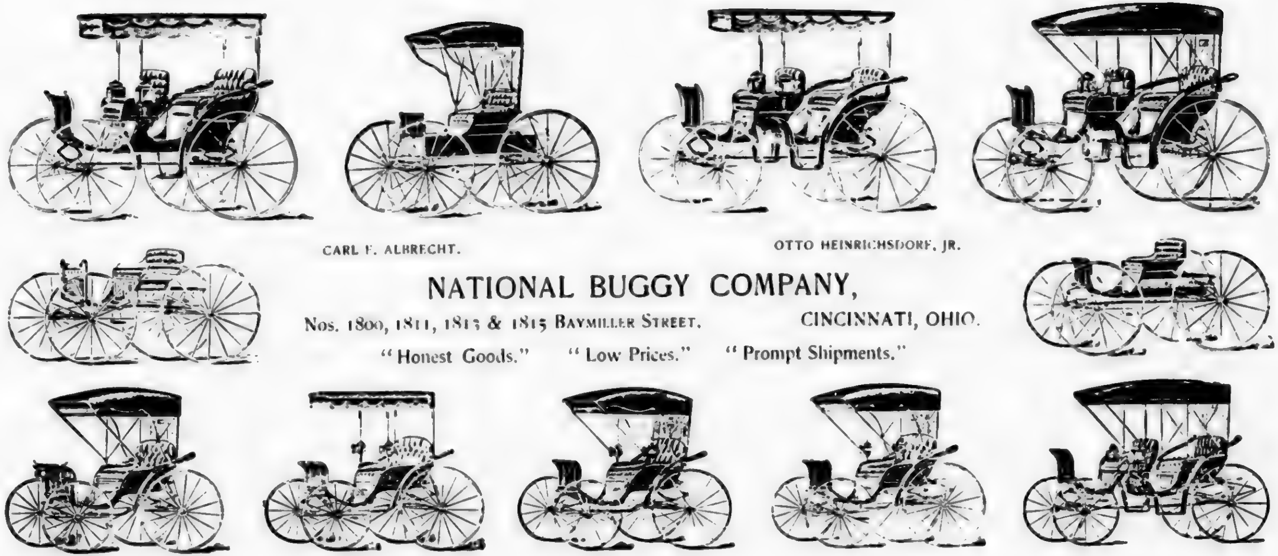
[4] *Special Report, U.S. Census Office, Manufactures,* 1905, pt. IV, 310; *U.S. Census of Manufactures, 1880,* xvii; see lists of advertisers, such as those in *The Hub,* September 1891, xiii.

[5] Ernest I. Miller, "The Death of an Industry," *Bulletin of Historical and Philosophical Society of Ohio* (January 1954), 18–19. The coming of the automobile quashed this growth in the early twentieth century. *Thirteenth Report, 1898,* Vol. II, 714–721.

[6] *Thirteenth Report, 1898,* Vol. I, 159.

[7] H. Perloff, *et al., Regions, Resources, and Economic Growth,* (Lincoln, Neb., 1960), 118; *U.S. Census of Manufactures,* 1860, 1900.

[8] J. D. B. De Bow, *Statistical View of the United States,* 399; for greater detail, see Edward P. Duggan "Labor Supply and Technological Change in the Nineteenth Century: A Comparison of Cincinnati and Birmingham, England," *Bulletin of the Cincinnati Historical Society* (Winter 1973), 263–284; *U.S. Census of Manufactures, 1880,* xxvi.



Collection of the Cincinnati Historical Society.

its carriage and wagon manufacturers generated more than twice as much in aggregate value as second-ranked New York. So diversified was the city's industrial base, however, that such production ranked fifth behind men's clothing, slaughtering, foundries, and distilled liquors in Cincinnati's overall output.

Technological change certainly reduced costs. Cincinnati producers succeeded almost too well in reducing prices, for by the 1880s the term "Cincinnati work" had begun to take on cheap connotations. Nonetheless, low cost vehicles were enormously successful. A survey of Cincinnati carriage and wagon manufacturers published in 1891 showed that buggies and phaetons for two costing less than $100 numbered 86,615 of the 115,672 carriages and wagons produced. Road carts, including skeleton carts and all carts costing less than $25 accounted for another 9,161. Not surprisingly, Cincinnati pioneered in making the woodworking and other machinery that allowed such mass production. A buggy that cost $45.67 in labor to produce by hand in 1865 cost only $8.10 in labor to produce by machine thirty years later. Yet, the machine-made item required more workers: 116 versus 6. The number of operations performed increased slightly, from 64 to 72, with machines, but the time required dropped drastically from just over 200 hours to just under 40.[9]

It is not clear that labor shortages prompted such changes. In reporting to Congress, Wright himself observed that:

> There would be no quarrel with the conclusion that machinery tends to lower the cost of production, and when it is known that under the machine method there is, as a rule, an increased demand for labor, the bearing of the supply of labor becomes problematical. Sometimes there is a lack, oftentimes there is a surplus, of labor. The causes of the changes in cost are therefore involved. . . . It is evident from an examination of the statistics presented in this report . . . that there has been a larger increase in the number of persons required for the production of the articles considered, in order to meet present demands, than would have been necessary to meet the limited demands under the hand-labor system.[10]

Innovations in the carriage and wagon industry nationally seemed most heavily directed to minimizing production time rather than saving skilled labor *per se*, for many developments depended on skilled labor. Changes were complex and extensive, affecting production directly and indirectly. For example, because of higher prod-

[9] *The Hub*, November 1891, 387; *U.S. Census of Manufactures, 1880*, xxvii; *The Hub*, July 1, 1883, 234, and *The Hub*, November 1891, 387; Miller, "Industry," 19; *Thirteenth Report, 1898*, Vol. I, 36–37.

[10] *Thirteenth Report, 1898*, Vol. I, 5–7.

uct quality, less handling, and more highly skilled workmen, time required to clean dashboards dropped from 25 hours for the hand-made item to two hours for the machine-made product. More direct operations also improved. For example, machines could make felly plates, which strengthened wheels, 46 times faster than men, partly because steam shears, in a sub-process, could cut plates 177 times faster than blacksmith's tools. Even with complex products, such as fifth wheels, which acted as pivots for front wheels, mechanization reduced production to one-twelfth hand wrought time. With such progress some traditional job functions changed drastically in nature. Thus, workers still used blacksmith's tools for levelling and truing, but the task took one-twentieth of the time previously required because of the quality of preceding machine operations, such as forging and welding. Further, making fifth wheels by machine eliminated the many hours of smoothing and finishing needed for the hand-made product.[11]

Within the carriage and wagon industry, productivity grew most rapidly in making the bolts that fastened the tire to the wheel. Machine methods operated 284 times faster than hand methods. Despite the absolute and relative savings of labor, however, the newer process created new functions and occupations. Services of a machinist, foreman, engineering fireman, and watchman claimed over 10 per cent of production time in the mechanized system. Old trades were also upgraded. Thus, factory organizations and higher skill requirements produced better work among sleigh painters.[12]

Such mixed conclusions for industry nationally have their counterpart in Cincinnati industry, as illustrated in the following tables:

TABLE I
CARRIAGES AND WAGONS: HAMILTON COUNTY (1860) AND CINCINNATI (1880, 1900)[1] AGGREGATE DATA

Year	Capital	Materials	Number of Workers	Wages	Value of Product
1860[2]	$ 264,037	$ 212,402	616	$ 232,488	$ 630,781
1880	1,252,131	3,061,264	3,297	1,207,319	5,287,113
1900	3,488,763	3,652,808	2,147	1,116,426	6,096,108

Sources: U.S. Censuses of Manufacturing, 1860, 1880, 1900.
Notes: [1] Not including separate census classifications for makers of carriage components.
[2] Carriages and wagons added together from separate census listings.

[11] *Thirteenth Report*, 1898. Vol. I, 163–164.
[12] *Thirteenth Report, 1898,* Vol. I, 169, 175.

TABLE II
WAGE SHARE, AVERAGE WAGES, AND CAPITAL INTENSITY: CARRIAGES AND WAGONS AND ALL INDUSTRY IN HAMILTON COUNTY (1860) AND CINCINNATI (1800, 1900)[1]

Year	Wage Share (Wage/Value of Product)		Average Wages (Annual)		Capital Intensity (Capital/Workers)	
	C&W	All Indus.	C&W	All Indus.	C&W	All Indus.
1860[2]	.369	.185	$377.42	$287.23	$ 428.23	$ 627.19
1880	.228	.186	366.19	358.67	379.78	926.92
1900	.183	.172	519.99	429.93	1,624.95	1,732.80

Sources: U.S. Censuses of Manufacturing, 1860, 1880, 1900.
Notes: [1] Not including separate census classifications for makers of carriage components.
[2] Carriages and wagons added together from separate census listings.

Table II provides especially interesting insights. Despite very deep, rapid mechanization, Cincinnati industry as a whole often remained little changed structurally. The wage share for all industry scarcely changed at all, hovering at less than a fifth of the total value of product. The amount of capital per worker nearly tripled, however, while wages increased by about 50 per cent. The carriage and wagon industry took a somewhat different course. Wage share dropped most dramatically from 1860 to 1880, when the industry converted from custom to mass assembly production. The industry's average wages fell as semiskilled and unskilled workers replaced craftsmen, but capital intensity also declined. In the next twenty years, however, capital intensity in this industry grew enormously, wages increased substantially, and the wage share fell slightly to near parity with the overall city average. For both the carriage and wagon industry and all city industries as a whole, hefty boosts in capital intensity scarcely changed the wage share. Wright's observations about the lack of displacement due to technological change and, indeed, the lack of any systematic relationships between labor and technological change seem borne out.

CAPITAL RATIOS IN THE CARRIAGE INDUSTRY

The study of capital provides helpful clues into the nature of mechanization. We would expect a technologically advanced industry almost by definition to rest heavily on its plant and equipment. Workers would stand deep in sophisticated, expensive machinery.

Comprehensive studies of capital in the carriage and wagon industry came rather late in the century. Continually lobbying the Census Office for better data, the Carriage Builders National Association finally published a detailed survey in 1891. Its conclusions are surprising. Production equipment took up only a small proportion of total capital. In 1890 each worker in the Cincinnati carriage and wagon industry worked with $1,347 in capital. However, machinery, tools, and implements accounted for only $76, or about 6 per cent of the total. By far the most important form ($504 per worker, or 37 per cent of the total) was trade capital, that is, cash in hand, bills receivable, unsettled ledger accounts, and sundries not elsewhere accounted for. Buildings were only 6 per cent of total capital, raw materials 11 per cent, and stock in process and finished goods in hand 14 per cent. Land and value of property hired took up the rest.[13]

A glance at Cincinnati in 1900 suggests that machinery, tools, and implements contributed surprisingly less than other forms of capital, especially trade capital, to industrialization. Machinery, tools, and implements comprised just over a fifth of all capital for all industries but did not figure large for carriages and wagons (4.5 per cent) or for several other major Cincinnati industries: men's factory-produced clothing (1.2 per cent), wholesale slaughtering and meat packing (11.7 per cent), distilled liquors (7.2 per cent), malt liquors (18.8 per cent). Such technology seemed more important for a diverse group of industries: foundry and machine shop products (30.8 per cent), newspaper and periodical printing and publishing (44.7 per cent), and bread and other bakery products (58.6 per cent), for example. Cash and sundries accounted for 78 per cent of capital for carriages and wagons versus 57 per cent for all industries.[14]

With much more money tied up in trade than in production, managers had a clear incentive to keep commerce flowing smoothly, minimizing financing, inventory, and receivables and maximizing the market. After all, in 1900 Cincinnati carriage and wagon managers had two-and-one half times as much money committed to cash and sundries as to wages.[15] Managers had more to worry about than production and, within production, more to worry about than labor supply. Still, using such aggregate data we remain one step removed from the decision-makers. We must ask of the participants more directly: Did Cincinnati carriage builders concern themselves with plans to eliminate labor? Did they continually discuss union work

[13] *The Hub*, November 1891, 396; calculated from *The Hub*, November 1891, 387.
[14] Calculated from *U.S. Census of Manufactures, 1900*, Vol. VIII.
[15] *U.S. Census of Manufactures, 1900*, Vol. VIII.

rules, skilled labor shortages, unskilled labor shortages, or rapidly rising wages?

Day-to-Day Decisions

To sense decisions in the making, we must hear decision-makers speaking, mulling over their opinions, chancing a hazard here, retreating from a bad experiment there. Through trade journals, employers and employees could see new technical designs, learn new methods of producing or marketing, and ponder decisions being made by colleagues elsewhere in the nation. Mechanics could immerse themselves in shop talk about the paint, trim, or other departments. Executives could keep a watch on railroad shipping rates and fashion changes. Dealers could learn of the latest progress in their interminable battle with manufacturers and with marginal operators who flooded markets with low-cost vehicles. Because trade journals in the carriage industry sought wide audiences, cultivating both labor and management, labor-saving innovations generally received non-partisan coverage.

The Hub, a major carriage journal that later served the auto industry, commissioned a reporter in 1886 to describe Hiram W. Davis & Company of Cincinnati whose 350 employees produced 20,000 vehicles a year in a multi-story plant.[16] The process of carriage building began with the preparation of panels, framework, and gearing, largely by machines, in the main woodshop. When finished, materials were wheeled to a dry-house for ten days of seasoning, then sent off to various other parts of the woodshop for assembly into bodies and gears. The materials then went to the smith shop for ironing. Located on the same basement floor as the boiler room and a 200–horsepower engine, the shop housed 50 fires and much machinery. Bodies and gear next moved by elevator to the paint shop on the third floor where the body was split off from the gear and received coats of lead, rough stuffing, color, color-varnish, and rubbing varnish. After varnishing, bodies were racked in a special drying room for 30 days, along with gears and wheels. If appropriate, some bodies went to the trim shop before final varnishing. After drying, the parts moved by elevator downstairs where they were assembled and checked against original orders. The completed buggy was crated, transported to the railway station, and shipped.

The reporter who described this process underscored several

[16] *The Hub,* May 1, 1886, 112, 113.

points. The entire operation was quite routine. Although skilled workers did much of the work, the final product was assembled quickly, suggesting little room for personal flair in machining, wood-cutting, or any other part of the process. The operation, moreover, was tightly controlled, with order slips and process slips cross-checked to make sure that parts tallied. Architecture contributed much to productivity, for the multistory building was designed for well-integrated work flow, and operations generally proceeded so routinely that management could concentrate on other problems, such as marketing. Indeed, another Cincinnati producer, T. T. Haydock, considered marketing of utmost importance. He watched crop reports carefully, for example, explaining that each of the 150,000 new farms forming each year would need at least one buggy.[17] By the 1880s production in the bigger plants largely meant assembly according to well-established practices. The task was left to supervisors, not executives, and production bottlenecks such as labor or materials shortages seldom were a problem.

The Supply of Skilled Labor

Although labor in general seems to have abounded, were critical skills in short supply? Did managers seek skilled machines to relieve their dependence on skilled men? Despite the lack of a common definition of "skill," the record does not suggest that such was the case. Skilled work seemed at the time to imply not deep specialization but general competence in several tasks. Thus, a skilled worker could perform all types of work in a department, including, presumably, maintenance, repair, and parts forming. A good carriage builder could handle several types of supplies, such as iron, varnish, cloth, and leather and could devise substitutes. Developing several generalized skills took much time, however, and the relatively few workers who had them often became designers and builders who flowed into management. Large shops engaged such persons mainly as department heads supervising more narrowly trained semi-skilled workers.[18]

Opportunities to train skilled workers seemed plentiful enough, although the thrust shifted from on-the-job to school training late in the century. The apprenticeship system drew much attention in the trade press. In a contrived dialogue published in *The Hub*, two partners in a carriage business observed how machines had replaced

[17] *The Hub*, July 1, 1883, 233–234.
[18] *The Hub*, November 1907, 270; September 1891, 284.

boys in doing rough work, such as panel-planing, wedge-making, and grindstone-making. Many of the remaining apprentices in the trade often left their positions for full-time jobs after mastering only basic tools. The commentators agreed that school technical programs should replace apprenticeships. Anxious to keep the industry supplied with skilled workers, the Carriage Builders National Association set up a Committee on Technical Education and subsequently a Technical School in New York. Providing day, evening, and correspondence courses, the school sought to produce very skilled, adaptable workmen, with a general knowledge of the trade. The Committee also lobbied to have drawing and geometry taught earlier in high school years, before many mechanically inclined students dropped out.[19]

Cincinnati residents were concerned enough about skills to invest much in themselves. By 1870, public investment in technical education threatened the private Mechanics Institute, founded in 1828, as drawing classes in the public schools led to a sharp enrollment decline in the Institute's School of Design, for example.

Even before 1850, the city had several organizations devoted to general and vocational education, both formal and informal. Such institutions included Cincinnati University (1806), the Circulating Library Society (1814), the Reading Room (1818), the Society for the Promotion of Agriculture, Manufactures, and Domestic Economy (1819), and the Apprentices' Library (1821). The public schools registered almost 28,000 students by 1870. Thus, Cincinnati residents seemed anxious to provide talented human resources for employers.

Skilled labor did not seem unduly scarce. Carriage builders throughout the nation and in Cincinnati rarely complained of high labor costs nor did they use technological displacement as a weapon in collective bargaining. Indeed, the trade journal, *Carriage World*, remarked with satisfaction that American carriage labor consumed twice the percentage of total costs as British workers. However fuzzy its economic logic, the publication argued that more talented American labor deserved the difference. Trade papers noted the inflow of skilled foreigners.[20]

In the turbulent national labor climate of the late nineteenth

[19] *The Hub*, June 1, 1883, 164; July 1894, 266; June 1, 1883, 164.

[20] Dana B. Harmel, "A History of the Ohio Mechanics Institute, Cincinnati, Ohio" (Doctoral dissertation, University of Cincinnati, 1962), 45; John J. Rowe, "Cincinnati's Early Cultural and Educational Enterprise," *Bulletin of the Historical and Philosophical Society of Ohio* (July, 1950), 211–216, October 1950, 304–310; Common Schools of Cincinnati, *Fortieth Annual Report: Handbook for School Year Ending June 30, 1870* 138; *Carriage World*, May 1890, 7. Miller reports an extensive strike in 1901–1902, "Industry," 23–24. *The Hub*, June 1887, 170.

century, Cincinnati seemed relatively stable, although the community did not evolve from town to metropolis without pain. Chamber of Commerce reports rarely mentioned labor difficulties or even labor as a motive behind technological change. Indeed, in 1900 the Chamber included harmonious labor relations among several reasons for manufacturing growth in the city. The organization had earlier credited both highly skilled labor and labor-saving machinery, along with accessible raw materials, for growth in carriage making.

It is not clear why Cincinnati had relatively little sparring at work: perhaps a low cost of living relative to incomes, or the proximity of crowded labor markets in the South, or an ethnically more homogeneous community. In any case, Cincinnati businessmen had good reason to show little vitriol in labor matters. In a close study of the machine tool industry, George Wing argued that Cincinnati benefited greatly from its position as the earliest Western manufacturing center and from a skilled labor supply costing 10 to 15 per cent less than in Eastern centers, such as Philadelphia and Boston. From 1891 to 1915 Cincinnati machinists earned 18 per cent less per hour than those in Boston and 9 per cent less than those in Philadelphia, working two hours a week longer than in Boston and one hour longer than in Philadelphia. Cincinnati also had greater downward flexibility in wages than Boston, suggesting to Wing a lack of organization among Cincinnati machinists. Despite such institutional weaknesses in bargaining, the apprenticeship system remained strong and apparently produced sufficient workers until developments in machine tool production prompted the creation of industrial education in high schools after 1900.[21]

Labor unions evolved in checkered fashion in Cincinnati, where some trades, such as carpenters, had stronger organization than, for example, ironworkers. Despite occasional strength, unions seemed less important in prompting employers to adopt more productive methods and tools than non-labor pressures. For example, innovations such as pasteurization, bottling, and refrigeration in brewing developed to improve handling, storage, or the product itself. Thus, ice machines installed by the Moerlein Brewing Company not only saved labor, but also saved space, controlled temperature, and allowed both year-round brewing and quicker fermentation. This general lack of pre-occupation with labor problems in Cincinnati

[21] For a discussion of political transformations, see Zane Miller, *The Urbanization of Modern America* (New York, 1973), 108–121; Cincinnati Chamber of Commerce Annual Reports, 1860–1900; *Report, 1900*, 107–108; Chamber, *Report, 1882–3*, 122; George A. Wing, "The History of the Cincinnati Machine-Tool Industry" (D.B.A. dissertation, Indiana University, 1964), 254, 251, 178, 179, 185.

also characterized carriage and wagon managers in the city. There were many carriage establishments in Cincinnati, with the largest firms employing up to 400 men. Nevertheless, management and workers seemed to get along better than in many other industries at local or national levels. At meetings of the Carriage Builders National Association, manufacturers often commented tolerantly on organized labor, citing their own origins as mechanics.[22]

By the late nineteenth century, industrialists had often sought to limit their employees' power by mechanization. For example, in 1886, Cyrus McCormick II installed pneumatic molding machines in his Chicago harvester plant to break the Molders' Union that had struck the year before. But carriage and wagon makers nationally and in Cincinnati had no such motivation, for their workers were scarcely strike-prone. Between 1881 and 1900, only 57 strikes occurred in this industry throughout the United States, one-quarter of one per cent of all strikes. From 1881 to 1886, the carriage and wagon industry in Ohio experienced only 19 of a total of 1240 strikes for all industries, a remarkable record of industrial peace compared to mining (493 strikes), metals and metallic goods (150), tobacco (114), and others. The few strikes that did occur took much less time to resolve. This pattern continued into the next reporting period, 1887-1894, in which Cincinnati had 109 strikes over all, but only seven in the carriage and wagon trade. Five of these occurred in one year (1887), making for a fairly long time without dissension. Even the period that embraced the depression of the 1890s – 1894 to 1900 – reveals a placid industry.[23]

The Critical Problems of Carriage Makers

Carriage builders had much more to divert their attention than real or contrived labor shortages. Except for the Committee on Technical Education, the Carriage Builders National Association

[22] James Morris, "The Road to Trade Unionism: Organized Labor in Cincinnati to 1893" (Doctoral dissertation, University of Cincinnati, 1969), 191; William L. Downard, "The Cincinnati Brewing Industry, 1911–1933" (Doctoral dissertation, Miami University, Ohio, 1969), 51, 54, 57, 58, 60. During the Civil War in the Cincinnati area, not labor shortage but consumer demand prompted stove production. Paper shortages led to innovations in printing; Carl M. Becker, "Entrepreneurial Invention and Innovation in the Miami Valley, during the Civil War," *Bulletin of the Cincinnati Historical Society* (January, 1964), 7. Patent evidence further suggests the strength of non-labor influences about this time; *Report of the Commissioner of Patents, 1849*, Vol. I, 45–73; *Patents, 1860*, 22–147. See also Edward P. Duggan, "Comparison," 271, 273; *The Hub*, June 1, 1886, 180; *The Hub*, November 1, 1886, 516, 517.

[23] Robert Ozanne, *A Century of Labor-Management Relations at McCormick and International Harvester* (Madison, Wis., 1967), 20, 21; *Sixteenth Report of the Commissioner of Labor, 1901*, 31; *Third Report, 1887*, 766–767; compiled from *Tenth Report, 1894*, Table I; *Sixteenth Report, 1901*, 242–243.

had no committees on general labor supply. However, its members did form groups to work on problems such as roads and highways, statistics, classification of carriage freight, and timber supply. Founded in the late 1880s, the Carriage-Makers Club in Cincinnati drew together hundreds of diverse members and guests, including bankers, merchants, and railway men. Monthly business and social meetings dealt with wide-ranging topics. During 1891 alone, such gatherings discussed commercial associations, municipal government, model carriage factories, water supply, railroad terminals, forestry laws, carriage makers' guaranty, syndicates, canal abandonment, grooved street-car rails, and reciprocity with Brazil. Of all problems, however, managements feared competition and price cutting the most. A Code of Ethics proposed by a committee of the Carriage-Makers Club remonstrated with builders against flooding markets by expanding facilities precipitately. The proposed code also cautioned manufacturers not to drive competitors to bankruptcy, which would throw liquidated inventories onto the market. Far from bemoaning labor shortages, the code also opposed cutting wages to boost profits.[24]

Builders constantly complained about bitter competition and nervously watched for market oversupply. Indeed, the banner on the front cover of *Carriage World* proclaimed "Live and Let Live." Concerned about inexpensive vehicles equipped with extra features that he felt belonged only on more expensive models, Perrin P. Hunter, a Cincinnati carriage builder, spoke to the annual convention of the Carriage Builders National Association on the topic, "The Monstrous Abuse: Selling Without Profit." He strongly argued for restricted capacity and higher, fixed prices.[25]

Lack of a Leading Hypothesis

How, then, do we evaluate the labor supply problem? In pursuing Habakkuk's interest in managerial decision-making, we focused on a rapidly growing, innovative industry. It is not at all clear that carriage and wagon producers in Cincinnati or throughout American industry suffered from labor shortages, inasmuch as managers paid so little attention to labor-saving technologies and other problems were so much more pressing. Managers seemed to seek more productive techniques primarily to raise output rather than to save labor.

[24] *The Hub*, November 1891, 383 and May 1891, 130. See, for example, *Carriage World*, May 1890, December 1891 and January 1892; also February 1892, 27 and 28.
[25] *Carriage World*, December 1891; *The Hub*, November 1907, 280–281.

Further, it is not certain that the industry was capital intensive. Carriage managers put their capital where their greatest problems were: cultivating markets. They invested much more capital in trade than in manufacturing, which means that they had much more to gain from innovation in marketing than innovation in manufacturing.

Scholarship on labor supply and technological change has produced very mixed results. Brito and Williamson recently argued that the availability of skilled maintenance crews allowed American employers to depreciate equipment more rapidly and thus use capital more intensively. Ephraim Asher found nineteenth-century British textile manufacturers even more conscious of saving labor than American employers. For the mechanical engineering industry, R. C. Floud rejected the labor cost argument altogether, suggesting that the major reason for American success was high tariff protection. Further, Paul Uselding redirected the labor supply hypothesis by commenting that demand for specifically trained labor has historically depended more heavily on the process of innovation rather than the reverse.[26]

Relationships between labor supply and technology in the American carriage industry were only a part of the much broader issue of American industrial predominance in the late nineteenth century. Carriage builders faced problems similar to those affecting mechanical industries generally. By 1900 British and American observers had long been engaged in the search for explanations of American technological superiority. Labor supply occupied a curious role. Industrialists in both countries agreed that Britain had by far the greater labor problem, especially in the engineering trades, because of the alleged inflexibility of trade unions. In a collection of businessmen's essays published at the turn of the century, Henry R. Towne of Yale and Towne Manufacturing Company of Connecticut argued that the American economy produced so much, at least in part, because Americans worked longer hours and joined fewer unions. With much more control over work practices, American managements could operate more efficiently, he felt. Archer Brown, another manufacturer, raised similar points, listing American advantages primarily in raw materials, labor, management, and plant. He

[26] D. L. Brito and Jeffrey C. Williamson, "Skilled Labor and Nineteenth Century Anglo-American Managerial Behavior," *Explorations in Economic History* (Spring, 1973), 244, 250; Ephraim Asher, "Industrial Efficiency and Biased Technical Change in American and British Manufacturing: The Case of Textiles in the Nineteenth Century," *Journal of Economic History* (June, 1972), 441; R. C. Floud, "The Adolescence of American Engineering Competition, 1860–1900," *Economic History Review* (February, 1974), 65–70; Paul J. Uselding, "An Early Chapter in the Evolution of American Industrial Management," Louis P. Cain, Paul J. Uselding, eds., *Business Enterprise and Economic Change* (Kent, Ohio, 1973), 77.

also argued that American employers had more control over a more talented work force and devised more efficient work practices.[27] Other employers generally concurred. None of the industrialists in these essays even hinted that shortages of skilled, semi-skilled, or unskilled labor promoted greater innovation in the United States. Indeed, American innovation seemed to spring from abundant and passive, rather than scarce, workers.

British engineering employers clearly felt more constrained. The issue of labor efficiency reached such a level that in 1902, British industrialist Alfred Mosely paid full fare and expenses for twenty-three British trade union leaders to tour the United States to view what he felt was more productive American labor. He wanted especially to compare work practices, which he claimed were far less restrictive than in England. The prevalence of the piece-rate system in the United States greatly struck Mosely. He did not find American workers threatened by technological change, although American employers worked their machines longer and harder, and American workers operated more machines. The secret lay, he felt, in the more direct incentives in the American system. American employers shared much more of their productivity gain than the British, who paid workers by customary rather than incentive rates.[28]

Yet Mosely did not speak for his group. To George Barnes, secretary of the Amalgamated Society of Engineers, who accompanied Mosely, Americans worked more hours a day and more days a year, and thus, dying earlier, fewer years. Aware how commonly the British held this view, Mosely included American health in his questionnaire to the trade unionists at the end of the trip. Barnes also felt that the hordes of untrained immigrants in American factories explained the shoddier quality he found in American goods.[29] Mosely then found innovation in incentives; Barnes found only too many workers, working too hard, and producing too little of value.

Conclusion

Recent studies have greatly expanded our vision of international differences in labor forces. In an effort to explain why Britain adopted

[27] "American Competition in the World's Engineering Trades," *Cassier's Magazine*, March 1901, 380. A most helpful source for this discussion is Gene Ferguson, *Subject Index: Cassier's Magazine Engineering Monthly, 1891–1913*, Iowa State University Bulletin, Vol. LXIII, No. 10, October 21, 1964; "American Competition," 380–382.

[28] Alfred Mosely, "British Views of American Workshops," *Cassier's Magazine*, January 1903, 475–479.

[29] George N. Barnes, "America's Shortcomings," *Cassier's Magazine*, April 1903, 710; Alfred Mosely, "The Recent British Trades Union Visit to the United States," *Cassier's Magazine*, February 1903, 575, 576; Barnes, "America's Shortcomings," 710, 711.

mass production techniques more slowly than the United States, C. K. Harley found Britain sufficiently supplied with the skilled labor needed to produce without much mechanization. Investigating English shipbuilding, iron and steel, textiles, and engineering trades, Harley found a lack of innovations such as interchangeability, the assembly line, and the use of professional engineers to design labor-saving plants. Britain had an urbanized, industrially knowledgeable workforce. By contrast, the United States had an industrial workforce peopled heavily by immigrants from Southern and Eastern Europe who were farmers or unskilled workers without manufacturing experience. Suggesting the general unimportance of skill shifts, at least in the British case, Roderick Floud found not only that labor costs remained a fairly constant one-third of final price in the British machine tool industry from 1850 to 1900, but also that little substitution among skill levels occurred.[30] These analyses clearly suggest that conclusions about differences in labor forces between Britain and the United States in the nineteenth century must remain highly tentative. Further, only with great risk do we build a theory of growth on a monocausal explanation of labor scarcity or surfeit.

The dust has not settled, in part because participants often argue past one another, developing uninformed theory or irrelevant facts. Most seriously, scholars have often neglected close studies of specific environments. That is, they have rarely studied actual decisions to adopt or reject new technology. Yet, entrepreneurs and managers responded to concrete pressures. They paid local wages and local prices. Some worked in areas overflowing with immigrants and capital, others did not. For some, strong educational systems developed entry skills for the young and continuing skills for the experienced. For others, local conditions generated no such pools of talent.

Nineteenth-century managers rarely arrayed their problems neatly. Employers had to worry not only about costs of labor, but also about costs of fuel, freight, storage, plant, equipment, and supplies. They had to evaluate the efficiencies of their own management and work processes, the health of their markets, and their sensitivity to competition. Saving labor often meant saving capital, resources, and, perhaps most importantly, saving time. All of these problems influ-

[30] C. K. Harley, "Skilled Labour and the Choice of Technique in Edwardian Industry," *Explorations in Economic History* (Summer, 1974), 391–414; Roderick Floud, "Changes in the Productivity of Labour in the British Machine Tool Industry, 1856–1900," Donald McCloskey, ed., *Essays on a Mature Economy* (Princeton, 1971), 330, 332. In America, ninetetenth-century observer Charles Fitch remarked that experienced, "unskilled" men often received skilled wages as machine tenders because they could provide careful, talented supervision, although lacking a traditionally defined skill. "Report on the Manufactures of Interchangeable Mechanism," *U.S. Census of Manufactures, 1880*, Vol. II, 6.

enced decisions to adopt technological changes in varying degrees. To understand economic change, we must listen closely to the participants themselves. We can scarcely afford to ignore the decision-makers when analyzing the decisions.

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Work Injuries and Adversary Processes in Two New England Textile Mills*

Whatever the shortcomings of "no-fault" employee compensation laws, such as the one passed in Massachusetts in 1911, Professor Gersuny shows that such laws were a great improvement over what had prevailed. Working with formerly confidential files, he shows that an "adversary relationship" had existed between the employer and his insurance company, on the one hand, and often pitifully maimed employees on the other. With few exceptions, all of the advantages were on the side of the employer, and the rights of employees to more than token compensation were routinely trampled upon.

Oliva Bourque's boyhood was shattered at the age of fourteen in the summer of 1896, when he sacrificed his right arm in the flood tide of industrialization. Not long after he was hired to work in the mule spinning department of the Lyman Mills, he went home from Holyoke City Hospital with an empty sleeve. After six weeks on the job at a weekly wage of $4.60, young Bourque had caught his arm in a machine, requiring amputation between the shoulder and elbow. The overseer's report stated that "the boy was careless. If he had done his work as he had been instructed he would not have been caught." [1] The insurance company that carried the Lyman Mills liability policy agreed to pay the hospital bill but expressed the judgment that "no legal liability existed and under all the circumstances perhaps no claim will be made." [2] In October a token payment of one dollar was made by the insurance carrier and a final payment, in exchange for a release signed by the victim and his father, in the amount of $31.20 was recorded on December 12, 1896.

Under the prevailing dispensation of liability for negligence, only an employee who was "himself in the exercise of due care and dili-

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[1] Lyman Mills papers, Baker Library, vol. LAC2.

[2] Lyman Mills papers, vol. PH17.

gence" was entitled to damages in case of injury, and industrial employers saved countless thousands of dollars by successfully blaming the victim. This situation persisted until the passage of the Massachusetts workmen's compensation law of 1911, which became effective in July 1912.

This article describes work injuries at the Lyman Mills in Holyoke, a typical New England cotton textile factory, and the patterns of imputing contributory negligence in the years from 1895 to 1916. It also draws upon material from the Dwight Manufacturing Company in Chicopee, a comparable cotton manufacturing concern, to illuminate the adversary relationships involved in factory accidents. Its aim is twofold, to examine an important aspect of the industrial experience and to show how changes in legal definitions of accident liability were reflected in changing managerial definitions of worker behavior.

Industrial *Wergild*

Payment of compensation to victims of injury or to their kin (*wergild* in Anglo-Saxon) is a practice of great antiquity.[3] Instituted as a social control mechanism to abate feuds, such payments were designed to "make better," if not to "make whole," the injured parties at the expense of those who wronged them. The laws of Ethelbert, King of Kent, dating from the first decade of the seventh century, specified payment for injuries by the guilty party in the amount of 50 shillings for an eye, 12 for an ear, 20 for a thumb, 9 for a forefinger, 6 for a front tooth and 1 for a fingernail.[4] Twelve centuries later, the 1911 Massachusetts law "relative to payments to employees for personal injuries received in the course of their employment" stipulated the following schedule:

1. For the loss by severance of both hands at or above the wrist, or both feet at or above the ankle, or the loss of one hand and one foot, or the entire and irrevocable loss of the sight of both eyes, one half of the average weekly wages of the injured person, but not more than 10 dollars nor less than 4 dollars a week, for a period of 100 weeks.
2. For the loss by severance of either hand at or above the wrist, or either foot at or above the ankle, or the entire and irrevocable

[3] Frederick Pollock and Frederick W. Maitland, *The History of English Law Before the Time of Edward I*, vol. 2, second ed. (Cambridge, U. K., 1898), 451.

[4] Carl Stephenson and Frederick G. Marcham, *Sources of English Constitutional History* (New York, 1937), 4.

loss of the sight of either eye, one half the average weekly wages of the injured person, but not more than 10 dollars nor less than 4 dollars a week, for a period of 50 weeks.

3. For the loss by severance at or above the second joint of two or more fingers, including thumbs, or toes, one half of the average weekly wages of the injured person, but not more than 10 dollars nor less than 4 dollars a week, for a period of 25 weeks.
4. For the loss by severance of at least one phalange of a finger, thumb, or toe, one half the average weekly wages of the injured person, but not more than 10 dollars nor less than 4 dollars a week, for a period of 12 weeks.[5]

It is important to emphasize the differences between these two dismemberment schedules after noting their similarity. The former depended upon a showing of guilt in a criminal act of violence, while the latter marked the emergence of "no fault" compensation for work injuries. The 1911 Act did in fact supersede a liability law under which compensation paid by the master to the injured servant required proof not only that the former was negligent, but that the latter had exercised due care and diligence in the performance of his duties.

Since the human animal is fragile and since its environments are, almost by definition, hostile and dangerous, there have always been casualties in the ceaseless quest for livelihood. Moreover, whenever this work has been carried on in hierarchically organized societies, the exposure to hazards has been unequal. But the problem has become greatly intensified since the first industrial revolution, because of the mechanization and "chemicalization" of work processes. Not only did the industrial revolution create unprecedented hazards to the safety of workers, but the scale of organization also made the laws concerning the relationship of master and servant an inadequate basis upon which injured workers could base their claims for remedy. Under the common law, in principle, servants injured as a result of their masters' negligence could recover damages, though they often lacked the means to prove their cases in court. The tort law of negligence had become so hedged with defenses against claims by injured workers that in a large proportion of work injuries nothing was paid to the victim.

Furthermore, the common law of negligence favored the interests of employers in hierarchic work relationships as a result of the fellow-servant rule, the principle of assumption of risk, and the finding of

[5] Massachusetts Acts and Resolves 1911, ch. 751.

contributory negligence on the part of the injured party. The fellow servant rule [6] is traced to an English case in which a master was held to have no liability for injuries suffered by one servant because of the carelessness of another. It was affirmed in American court proceedings by Chief Justice Shaw in a Massachusetts railroad case, which held the employer blameless for injuries suffered by an engineer as a result of a switchman's error. This served to abrogate the principle of *respondeat superior*, under which the principal is liable for injuries inflicted by an agent. Later the fellow-servant rule was modified to exclude vice-principals, i.e., supervisory personnel. "Assumption of risk" [7] was a legal doctrine used to defeat damage claims on the grounds that some trades were inherently more dangerous than others and that supposedly higher wages in more dangerous occupations sufficed to offset the difference in hazard. If unusual hazards arose that were known to the worker, claims for damage could be defeated under this doctrine on the grounds that he was free to leave the job and yet persisted in exposing himself to danger. The third and perhaps most important of what Prosser called "the three wicked sisters" of the common law on work injuries was the fact that even the slightest degree of contributory negligence [8] on the part of the victim relieved the employer of liability. Moreover, the burden of proof was on the worker to show that at the time of his injury he had been himself in the exercise of due care and diligence.

The "Chicopee Method" of Handling Work Injury Claims

In 1902, the resident agent in charge of a cotton mill in Chicopee, Massachusetts informed his company's liability insurer of his progress in dealing with two injury cases arising out of the malfunctioning of an elevator: "I am trying the Chicopee method of settlement, i.e., waiting till they get hungry for money before going to see them." [9]

Situations in which one side seeks to settle accident claims as cheaply as possible while the other seeks maximum indemnification are

[6] Crystal Eastman, *Work Accidents and the Law* (New York, 1910; reprinted New York, 1969), 172ff; Walter F. Dodd, *Administration of Workmen's Compensation* (New York, 1936), 4–11; Leonard W. Levy, *The Law of the Commonwealth and Chief Justice Shaw* (Cambridge, Mass., 1957), 166–182.

[7] Eastman, *Work Accidents*, 170ff; Dodd, *Workmen's Compensation*, 6ff; Theodore Roosevelt, "Sarah Knisley's Arm," *Colliers*, 50 (January 25, 1913), 8–9.

[8] John R. Commons and John B. Andrews, *Principles of Labor Legislation* (New York, 1916), 390; Adna F. Weber, "Employer's Liability and Accident Insurance," in John R. Commons, ed., *Trade Unionism and Labor Problems* (Boston, 1905), 559; William L. Prosser, *Handbook of the Law of Torts*, 2nd ed. (St. Paul, 1955), 383.

[9] Dwight Manufacturing Company papers, Baker Library, Harvard University, Agent (plant manager) to Insurer vol. HL2, 3/17/02. Agent to Insurer letters are in volumes HL1 to HL4 and Insurer to Agent letters in ML30 to ML44. Correspondence is footnoted by volume and date.

classical examples of industrial conflict. The posture of government and of other third parties partially shapes the outcome of the conflict, but the main determinant is the power or lack of power of the principals. More often than not, the Dwight Manufacturing Company's agent reported success rather than failure in applying the Chicopee method to minimize payments on account of work injuries. The struggle was one-sided, the tactics were often sordid, and the outcome imposed the burden of work injuries mainly on the victims. It was a struggle for which the laws of the Commonwealth provided a set of ground rules in the form of an employers' liability act,[10] which, though it contained some modifications of the common law, did little to dispel the popular belief that the law is the handmaiden of propertied interests.

The Adversary Process

Since, in the short run, more for one means less for the other, settlement of injury cases was approached by management with the intention of minimizing payments and dissuading workers from recourse to litigation. When Annie Cronin called to inquire about insurance payments, wrote the mill agent, "I asked her how she injured her hand and she said she 'didn't know but thought she must have slipped and, trying to save herself, threw her hand against the belt.' Told her that I could do nothing for her, as the company was not in any way responsible. . . . The people around here seem to think that the Dwight Company is a charitable institution. Think this will be a good chance to undeceive them." [11]

Expressions of relief when an injured worker signed a release and left town suggest the dehumanization of working people, the discarding of a damaged factor of production. Better the disabled worker should go far away, it seemed, than stay to demand work suitable to his condition, or to become a burden on the taxpayers or an embarrassment to his employer: "Inclosed find report of accident to Wm. Knapp, [who had fallen into an elevator shaft] also release signed from same party. Got clear of this case very nicely as he has already taken train for his native town in New York State [12] . . . Wm. Szetela . . . was in today, and I finally made settlement with him for $45. His

[10] James Weinstein, *The Corporate Ideal and the Liberal State* (Boston, 1968); Roy Lubove, *The Struggle for Social Security* (Cambridge, Mass., 1968); Herman M. Somers and Anne R. Somers, *Workmen's Compensation* (New York, 1954).

[11] Dwight papers vol. HL1, 3/14/98.

[12] Dwight HL1, 11/6/99.

hand will always be rigid, so that he cannot obtain employment readily, therefore intends to go back to Poland." [13]

The desire to avoid litigation was a recurrent theme, especially in the face of rising juror sympathy for plaintiffs injured in the mills: "Succeeded in getting Mr. Robinson and effected a settlement with him for $60. As you surmised he was approached by a lawyer of this place, who advised him to attach the Company for $7500. After talking the matter over with him a little while, succeeded in making settlement [14] . . . offered Glasky's wife $25.00 in settlement of the case, but she refused, so that probably the next thing will be a notice from the 'Germany lawyer' in Holyoke." [15] Spirited employees did much better by threatening to go to court. A worker who demanded $200 for a permanently incapacitated hand (he retained slight use only of the thumb) rejected an offer of $50 and his threat to sue raised the company offer to $100, which he accepted.[16] Some workers rejected compromise in the face of certain exclusion from future employment with the company.

After Bridget Linehan called the mill office, the agent wrote to the insurer, "I can settle with her . . . by paying her time and Dr's bill. . . . *Tried to beat her* down, but she said she would not take a cent less," [17] She was twenty-four years old and had been employed at the mill for eight years. Her injury occurred when a lever on her machine slipped because of a loose nut, and she consulted her family doctor rather than the company surgeon. Several weeks before his attempt "to beat her down" the agent wrote to the insurer that she had stated "since she was injured through no carelessness of her own . . . 'she thinks it the duty of the company to pay her wages and expenses.' What shall I tell her?" [18] She seemed aware of her rights under the employers' liability law and was not a typical accident victim in the eyes of those who had to deal with her.

In Annie Kelly's case the insurer was obdurate, writing that "we give you limit of $50 to settle the case. . . . You will of course get off for as much less as you can . . . [If she files suit] . . . make a fight; and she cannot . . . expect you to employ her and thus supply her with funds for suing you." [19]

Insurance companies expected the mill manager to use his power to minimize an employee's case. "Do not allow . . . anyone . . . repre-

[13] Dwight HL1, 7/10/01.
[14] Dwight HL2, 11/6/99.
[15] Dwight HL2, 4/28/06.
[16] Dwight HL2, 1/8/07.
[17] Dwight HL3, 3/31/08, emphasis supplied.
[18] Dwight HL3, 3/10/08.
[19] Dwight ML37, 8/22/05.

senting the boy to enter your works for the purpose of examining the machine where the boy was injured . . .", the Dwight agent was cautioned,[20] and after an accident caused by a defective chain hoist the same insurer instructed the management of another mill to let nobody examine the broken chain links. When the employer became aware of the probability of future medical complications, he tried for a quick release from the victim who probably was not privy to the prognosis made by the company doctor. "We made settlement with Powall Sheizer for $60," the Dwight agent noted, "and we enclose release signed by him. . . . It developed that one of the metacarpal bones was broken and some of it came out. It is possible that more of it may come out later. . . . If it does, it may cause him more trouble, but we thought it best to settle with him." [21] On the other hand, the employer was not sure it could trust the private physicians who treated their employees. Mary Dunn went to a doctor not beholden to the company, whose professional judgment was denigrated by the mill agent and by the company doctor: "This girl went to a young Doctor of this Place (Dr. Gates) to be treated. . . . He reported that . . . he thought she had received a slight concussion of the brain. . . . The report also states that there was no mark discernible, so that everything indicates "fake," even to the physician's report; the latter grew indignant when writer suggested that his examination found more than actually existed." [22] When one of the employees' hands was mangled in a machine, the agent wrote "we sent him to *our* surgeon, who now reports that the hand is an excellent job from a surgical standpoint, but that he does not think Michael will have the use of any of the fingers." [23]

The Role of the Interpreter

One important figure in the struggle over work injuries in the Dwight Mill at the turn of the century, when many workers spoke no English, was the interpreter. The question of translation is not a simple one of rendering a statement made in one language into another. Disparities in social rank enter the situation and the inference is unequivocal from the documents in this study that a great deal

[20] Dwight ML36, 3/15/04.
[21] Dwight HL4, 7/10/11.
[22] Dwight HL1, 10/14/04.
[23] Dwight HL2, 1/3/07, emphasis supplied.

depended upon *whose agent* the interpreter happened to be in any given case. On one occasion, the management wrote about the services of interpreters who were on the company's side and yet collected a fee from workers in whose cases they appeared: "We consider that we were fortunate in getting these terms with them [the employees] as they were both beset with 'shyster lawyers' who were anxious to take the case, and sue for large amounts as they thought they had a clear case against the Company, but with the aid of the interpreters who were friendly to us (one of them was paid by Sliva himself out of the $200) we succeeded in persuading them to accept the amounts offered.[24]

One interpreter in particular was involved with Dwight Manufacturing from 1909 to 1912, acting in what was essentially a staff capacity in personnel management, but as an outside contractor on a fee-for-service basis: "Paul Starzyk, who acted as interpreter in the above case, called us up . . . and inquired if he was to get something out of it. . . . In making the settlement, the woman evidently thought the amount was small, but after talking the matter over . . . with Mr. Starzyk, she finally said she would not bother with it any more, and would settle for that amount." [25] Such interpreters earned their keep: "Paul Starzyk, who is acting as interpreter for Swavick, telephoned us . . . that the latter would not accept $10.00 in settlement, but thinks if your man should be here . . . he could arrange a settlement at a low figure, although parties have been trying to get this man to give his case to a Springfield lawyer, who is said to *buy* them at a good figure.[26] We settled this morning with Apolina Dejato . . . for $20 and enclose release signed by her. Mr. Starzyk thinks he ought to have a little remuneration for persuading her to settle at this figure and her hand is still in pretty bad condition." [27] But they also sought to capitalize on their employers' wish to avoid litigation:

> Regarding Mr. Starzyk, your Mr. Kinney stirred him a good deal . . . and he feels pretty sore and undoubtedly will take sides against the Company and advise people who come to him to see a lawyer instead of, as he has been doing, advising them to settle . . . . He says he will get more money out of it in such cases. In this present case, he came here at least four times . . . and think (sic) that he should have some consideration for advising them to settle even for this amount ($150), as their first amount was $700 and he is sure they would get much more than $150 if lawyers pressed the matter for them.[28]

[24] Dwight HL2, 3/21/02.
[25] Dwight HL3, 2/17/10.
[26] Dwight HL3, 8/8/10.
[27] Dwight HL3, 2/12/11.
[28] Dwight HL4, 7/11/11.

Impulse Toward Kindness

One should not suppose that the managers who handled work accidents for the mill were ogres devoid of any feeling of sympathy or impulses of kindness toward some of the casualties among their subordinates, especially where workers with long records of faithful service suffered unusual hardships. These expressions usually took the form of appeals by the mill agent to the insurer. One injured weaver with many years of service, wrote the agent, "would not ask for help, had she not recently been to considerable expense owing to the death of her brother. Anything you can do for her would be appreciated."[29] In another case, the insurer was asked to give an old "standby" some of the money that had been held back from other cases by the expedient of getting the workers involved to sign releases for less than the amount authorized by the insurer. The usual response to company pleading on behalf of the injured employee was a statement from the insurer that charity and compassion were worthy sentiments, the costs of which should be defrayed by the mill owners. In the absence of legal liability, the insurer declined to make contributions to the "deserving poor" except in token amounts to secure a signed release and forestall litigation. This was a hedge against unpredictable jury deliberations, and even a successful defense in court would cost more than the $10 often paid for an injured employee's signed release. Thus, compassion was served only so long as it was compatible with cost cutting.

Changing Work Injury Legislation

Industrial injury rates in the United States reached their peak during the first decade of the twentieth century.[30] At this time, too, movements for safety and to reform the treatment of workplace casualties emerged. Advocates of change urged that the employer's liability laws rooted in the common law be replaced by no-fault compensation laws patterned after British and German practice. It was a conservative reform that was more strongly endorsed by the National Association of Manufacturers than by the American Federation of Labor. The old system came to be opposed by employers because of the great volume of litigation it spawned, the uncertainties of dealing with juries increasingly sympathetic to plaintiffs in work accidents,

[29] Dwight HL2, 3/14/02.
[30] Somers, *Workmen's Compensation*, 9.

and the potential for unrest in an unjust and irrational procedure. Workmen's compensation was favored because it "would make certain the relief of the employee without unduly burdening the employer." [31]

Thus, Massachusetts in 1911 joined those states that replaced employer's liability statutes by a system of workmen's compensation,[32] which removed questions of liability from the treatment of work casualties and established schedules of payment for losses sustained by workers as a result of injuries sustained in their employment.

The chairman of the Massachusetts commission charged with dealing with employers' liability and workmen's compensation wrote in 1911 concerning the division of burdens under the new law: "We think that a fair way of dividing it up, because it divides the loss between the employer and employee. The employers pays fifty per cent and the employees contribute their loss of wages, and pain and suffering. That is the nearest to justice, it seems to me, that we can get." [33] Being assured of less than half a loaf (after a two-week waiting period) was unquestionably an improvement over a system under which a large proportion of industrial casualties received nothing. Workmen's compensation reduced uncertainty and discontent in the treatment of work injuries, although what struck Commissioner Lowell as "nearest to justice" still left a wide arena of conflict for those who questioned his assessment.

Determination of the amount payable to the victim of an injury should be based, wrote Dublin and Lotka in 1930, on age, earning capacity, and degree of disability, but payment schedules "involve violent empirical interference" with these principles "by the stipulation that the basic amount of weekly earnings shall not exceed a wholly arbitrary sum."[34] The same stricture applied to imposition of a two-week waiting period during which the injured worker received nothing and the wholly arbitrary cut-off after which payments ceased. Nevertheless, by eliminating many of the inequities of the tort law procedures for dealing with work injuries, particularly in the matter of contributory negligence, workmen's compensation represented an

[31] Lubove, *Struggle for Social Security*, 55.

[32] Robert Asher, "Business and Workers' Welfare in the Progressive Era: Workmen's Compensation Reform in Massachusetts, 1880–1911," *Business History Review*, XLIII (Winter, 1969), 452–475; see also Lawrence M. Friedman and Jack Ladinsky, "Social Change and the Law of Industrial Accidents," *Columbia Law Review*, 67 (January, 1967), 50–82.

[33] James A. Lowell, "Workmen's Compensation and the Industries of Massachusetts," *Annals of the American Academy of Political and Social Science*, 38 (1911), 239.

[34] Louis I. Dublin and Alfred J. Lotka, *The Money Value of a Man* (New York, 1930), 79.

improvement in the conditions of industrial labor. To appreciate this, one need only examine the surviving evidence concerning the treatment of casualties before 1912.

Injuries at Lyman Mills

Lyman Mills case records[35] reporting injuries to workers identify the physical agencies or events that were the immediate cause of injury. Of 814 cases in which this information is available, 513 (63 per cent) resulted from encounters between human bodies and parts of moving machines or elevators. The remaining 301 injuries (37 per cent) were caused by flying shuttles or falling objects (76), falls (68), wounds from metal or broken glass (75), eye injuries (16), burns (12), and miscellaneous (54).

The high proportion of injuries attributed to moving parts of machines, such as gears, pulleys, belts, beaters, circular saws, and other mechanical devices, reflects unfavorably on the level of enforcement of the 1877 Massachusetts law requiring that moving machinery be equipped with guards. It also reflects the hazards, before the individual electric motor came into use, accompanying a technology that relied on belts connected to shafting geared to a central power source. Elevators also lacked safe enclosures, goggles were not supplied to users of grinding wheels, and such seemingly trivial injuries as splinters and cuts from broken windows could have grave consequences in case of infection.

The data are not adequate for an assessment of the severity of injuries, because they contain mill overseers' descriptions of injuries rather than physicians', and because the amount of lost time is not recorded. Many of the injuries involved no lost time at all. The Lyman Mills casualties from 1895 to 1916 included 1 known fatality, amputations of 5 hands, 36 fingers, and 6 toes. Injuries described in the reports as "flesh wounds" could have meant permanent incapacity of a hand or some trivial abrasion. But some evidence as to the comparability of the Lyman injury rates with those of other cotton mills is in the records of insurance rates. The American Mutual Liability Insurance Company charged a premium of forty cents per hundred dollars in wages to cover both Lyman Mills and Dwight Manufacturing Company, of Chicopee, Massachusetts during the last six months during which the employer's liability law was applicable. During the

[35] Lyman Mills papers, volumes LAC1 to LAC13 (injury reports) and volumes PH17 to PH20 (correspondence) were the primary data source. Payrolls from 1895 to 1910 were sampled to calculate departmental sex ratios. Professor Robert G. Layer's work sheets on textile payrolls were also helpful.

first six months under the 1911 law, both companies were assessed for insurance against this risk at a rate of eighty-five cents per hundred dollars in wages.[36]

In contrast to the textile industry, a far greater toll of casualties was recorded in other industries during this period. In 1906, forty-six men were killed in the South Chicago works of the United States Steel Corporation. Data from the Pittsburgh Survey of this period reveal 526 fatal work injuries in one year in Allegheny County, including 125 among railroad employees, 71 in mining, and 195 in the steel mills.[37] Thus, the use of cotton mill injury records does not appear to be vulnerable to the charge of arguing from an extreme case.

For the male labor force, the carding rooms, shop and yard jobs, and the cloth room were the source of a disproportionate number of casualties, while for women the carding rooms were most hazardous. There were no women in the shop and yard force, and only one injury to a woman was recorded in the cloth room from 1895–1912. Thus, some of the most dangerous spots were reserved for male employees, but spinning and weaving were not havens of safety, as witness the boy victims in the former and the shuttle accidents in the latter.

In the carding rooms, picker hands, strippers, card grinders, and speeder tenders appeared frequently in the injury reports. In the cloth room, the classifications of winder, folder, and shear tender accounted for numerous casualties, while in the maintenance shop, carpenters led the list of injured workers. In each department where both men and women were employed, men were overrepresented among the casualties, i.e., the proportion of men among the casualties exceeded the proportion of men in the departmental work force so much that the probability that this may have been a random occurrence is very small.

Patterns of Contributory Negligence

It is possible to discern social patterns in the distribution of negligence charges among the Lyman Mills labor force. These accusations were not randomly made against injured workers irrespective of their job classification, demographic characteristics, or cause of injury. The belief that the recklessness of youth is replaced by the caution that comes with maturity seemed to be supported by the Lyman Mills records. However, upon closer examination this relationship appears to be spurious. When production departments are separated from

[36] Lyman Mills papers, vol. ED1; Dwight Manufacturing papers, vol. DN10.
[37] Eastman, *Work Accidents*, 14.

the shop and yard employees, the difference between adolescent and adult workers, while still in the predicted direction, becomes so small as to be dismissable as a random variation.

The problem with age is further complicated when the three largest production departments are examined separately. In the carding rooms the proportion of injuries to adult workers in which carelessness was charged is *significantly greater* than in cases involving adolescent workers (14–17 age bracket, 15 of 26 cases or 57.7 per cent; 18 and older, 160 of 210 cases or 76.2 per cent). In the spinning rooms, the pattern is in the opposite direction with the proportion of adult workers thus charged being *significantly smaller* than among injured adolescents (14–17 age bracket, 66 of 77 cases or 88.0 per cent; 18 and older, 23 of 33 cases or 69.7 per cent). In the weaving rooms, there was no significant difference in this respect, but only 4.3 per cent of 117 injuries to weaving personnel involved workers under the age of eighteen.

Women suffered proportionately fewer injuries than men in all Lyman Mills departments that employed both men and women. However, any inference that women would have been subjected proportionately to fewer charges of contributory negligence is not borne out by examination of the data. Among injured women, 65.5 per cent were charged with carelessness. For the total male work force, this proportion was 53.6 per cent, but when the all-male shop and yard force is excluded, the proportion for injured male operatives was 65.3 per cent. A departmental breakdown showed one exception to the pattern in the spinning rooms, where a signficantly higher proportion of injuries to males than to females was followed by imputation of carelessness. However, the spinning work force included a large proportion of young boys who not only had the most dangerous jobs but were taxed almost invariably with contributory negligence.

The shop and yard force, though over-represented among the male casualties, was significantly under-represented in the proportion of cases involving charges of carelessness. For the 1895–1912 period, 335 of 528 injuries in the production departments (63.8 per cent) were so labeled, while only 10 of 87 injuries in the shop and yard force (11.5 per cent) involved such charges. A plausible explanation of this discrepancy is that the shop and yard force, particularly the carpenters, millwrights, and machinists, had the most skilled jobs in the mill as well as some of the most hazardous under the prevailing state of the industrial arts. This combination of circumstances led to

a high incidence of injuries and relatively few charges of carelessness in these departments.

The era was one of massive immigration and many recruits to the industrial labor force were unable to speak English.[38] The heavy toll of work injuries was often attributed to this fact. At the Lyman Mills from 1895 to 1912, 47.7 per cent of all injuries were incurred by workers unable to speak English. When the shop and yard force, among whom only 4.5 per cent of the casualties spoke no English, is excluded, the percentage of injured workers unable to speak English in the production departments was found to be 55.0 per cent. Among 353 cases in which contributory negligence was imputed, 61.1 per cent were unable to speak English. The only exception to this pattern was in the adolescent work force, among whom 31.5 per cent spoke foreign languages exclusively. Not unexpectedly, recent immigrants were found to be less likely to recover damages under the liability law than native Americans and earlier arrivals who had learned the language or who came from English-speaking countries.

The Decline of Contributory Negligence

With the introduction of workmen's compensation in place of employers' liability rooted in common law traditions, the charge of contributory negligence (after July 1912 in Massachusetts) no longer served to save money for the employer or his insurance carrier, and the number of such cases declined sharply. Obviously the Lyman Mills did not immediately become safer places to work following the change in the law. The 1908–1911 average of 35.5 injury reports per year is comparable with the 1913–1916 average of 39.2 per year. But there was a statistically significant reduction in the proportion of cases in which injury was attributed to the victim's carelessness. From January 1895 to July 18, 1912, 345 injuries of 611 were recorded with accusations of carelessness (56.5 per cent). Beginning with the first case under the Workmens' Compensation law, from July 28, 1912 through the end of 1916, only 40 of 176 cases (22.7 per cent) were taxed with contributory negligence. In 1911, 52.8 per cent of Lyman injury reports included an accusation of carelessness, while in 1912 this dropped to 17.6 per cent.

This pattern is corroborated by injury reports of the Lawrence

[38] The proportion unable to speak English in the Lyman work force as a whole is not known. Hence, the comparison between injured workers charged with contributory negligence and those not charged. Among injured workers *not* taxed with carelessness, 71 per cent spoke English, while among those defined as careless, 39 per cent spoke English. Among the injured group as a whole, 52 per cent were English speakers.

Manufacturing Company, a large cotton mill in Lowell, where during the first six months of 1912, 84.5 per cent of injuries were attributed to carelessness, while during the last six months of that year, after the new law went into effect, only 12.2 per cent of the case records include accusations of carelessness or violation of instructions.

Conclusion

Study of factory records indicates the nature and distribution of work injuries in a typical cotton mill during the period in our industrial development when the casualties of the workplace reached their peak. These records also reveal patterns in the imputation of contributory negligence as a defense under the employers' liability law. In addition, correspondence between the manager of a similar mill and the liability insurance carrier sheds light on the tactics in the day-to-day conflict that characterized the disposition of industrial accident cases prior to the time when social insurance superseded tort law in this field.

After the no-fault workmen's compensation law went into effect, the number of injuries at first remained at the same level as before, but there was a significantly lower proportion of cases in which the injury was blamed on victim carelessness. It is difficult to avoid the inference that charges of contributory negligence had often reflected nothing more than expediency, while under the new law there was seldom any advantage to be derived from such allegations.

In the relationships of the workplace, there are obvious disparities in power that are reflected in the accident records and in the correspondence about disposition of damage claims discussed above. Changes in the laws governing work casualties reflected a shift in these power relationships as a result of intervention by the state. These changes transformed the conflict over occupational hazards, to some extent, from adjudication of individual cases to contention over compensation levels, over inclusion of occupational diseases, and over the costs of preventive measures.

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Rubber in Brazil: Dominance and Collapse, 1876-1945

For the first few years of this century, Brazil was the major supplier of rubber to the world. However, the Amazonian wild rubber industry was unable to compete, in either price or quality, with the Asian plantation rubber that began to appear on world markets after 1906. Development of a successful plantation culture in the Amazon seemed imperative, but even with public subsidy, plantations remained an economic impossibility. By 1945 the Brazilian rubber industry, overwhelmed by Asian production, had virtually disappeared.

Studies of the rubber industry in Brazil have tended to concentrate on the "boom" years — the period of high prices and high production between 1900 and 1912. The Amazonian rubber boom is a convenient historical topic, with a well-defined beginning and end. But the boom was not an isolated event. The groundwork for the destruction of the Brazilian rubber industry was laid long before the boom years, in fact before rubber had attained much commercial importance. And even after a flood of East Asian plantation rubber, produced at one quarter of the cost of the Brazilian product, had all but destroyed the inefficient Amazonian industry, Brazilians stubbornly clung to their belief that there would always be a market for their rubber, no matter what price they asked.

Brazil possessed what is still the best available source of natural rubber: the *Hevea Brasiliensis* tree. Centuries before Europeans voyaged to the New World, the aboriginal inhabitants of Amazonia were making shoes, bags, and rubber balls of the coagulated sap of the Hevea.[1] It was the existence of this tree, growing wild in the Amazon rain forest, that made Brazil the world's major source of rubber until 1913. But the Brazilians never succeeded in domesticating the wild Hevea tree, and ironically it was the Hevea, "kid-

Business History Review, Vol. LI, No. 3 (Autumn, 1977). Copyright © The President and Fellows of Harvard College.

[1] Howard Wolf and Ralph Wolf, *Rubber: A Story of Glory and Greed* (New York, 1936), 19.

napped" by the British India Office in 1876, that formed the basis of the plantation industry that ended Brazil's dominance of rubber production.

Origins of the Asian Plantations

The first European to make a detailed report on the collection and use of rubber was a Frenchman, Charles Marie de la Condamine, who in 1743 journeyed across the Amazon basin from the Andes to the Atlantic Ocean. Condamine's report, accompanied by samples of Hevea rubber, was read at the French Academy of Sciences.[2] Nevertheless, rubber attracted little attention from colonial powers interested mainly in precious metals and easily exploitable native populations. Small amounts of rubber did begin to trickle into Europe, however; in 1770 Joseph Priestly – the discoverer of oxygen – came into possession of a small sample. He discovered that it could be used to rub out pencil marks, and so gave rubber its English name.[3]

In the early 1820s a small rubber manufacturing industry grew up in England and America, inspired perhaps by the intermittent import of Indian-manufactured articles, mainly rubber shoes, from the Brazilian jungle. But rubber in its natural state grew tacky when the weather was hot, and stiff and inelastic in the cold. The products of these early rubber factories were frequently returned half-melted by angry purchasers, and most of the companies folded during the 1830s.[4] In 1840 Charles Goodyear discovered the vulcanizing process, which made rubber resistant to temperature changes, and laid the foundation for the rubber boom a half-century later. The response of rubber manufacturers – and the producers of the raw material – was immediate. In the year of Goodyear's discovery, Brazil exported 388 tons of rubber. Ten years later, shipments amounted to 1,467 tons, and in 1860, 2,700 tons.[5]

The Brazilian government first began to manifest an interest in this new forest product in 1853, when by government decree the Amazon Steam Navigation Company was established. Before the introduction of steamships on the Amazon, sailing vessels took from forty days to three months to cover the thousand miles from Pará to Manaus. After 1853, the journey took eight days by steamship.[6]

[2] Wolf & Wolf, *Rubber: A Story of Glory and Greed*, 26–27.
[3] Charles Akers, *The Rubber Industry in Brazil and the Orient* (London, 1914), 2.
[4] Wolf & Wolf, *Rubber: A Story of Glory and Greed*, 295.
[5] Akers, *The Rubber Industry in Brazil and the Orient*, 111.
[6] Henry Walter Bates, *The Naturalist on the River Amazons* (London, 1884), 113.

Prosperity quickly followed the improvement in transportation, and Pará was transformed in less than ten years from a "weedy, ruinous, village-looking place" [7] to a clean, modern city of 20,000.

The sudden appearance of rubber as a commodity of some importance in world trade, and the prosperity that came to Brazil as a result of the high prices of the 1860s, attracted the attention of the British Foreign Office. Clements Markham, the head of the office, had been knighted for introducing the cinchona tree (from which quinine is derived) into East Asia. The cinchona, a native of South America, was sought in the wild for its bark in much the same way the Hevea tree was for its sap, but had proved easy to cultivate in plantations, and very profitable as well. Markham decided to try the same thing with the rubber tree, and the British consul in Pará, James Hay, was instructed to try to find someone who would be willing to collect some seeds for shipment to London.[8] There was no formal ban on the export of seeds, but it was correctly assumed by Hay that the Brazilian government would not be willing to allow rubber seeds to be taken out of the country. So he contacted several British nationals in Brazil, but with little result. A few seeds actually were smuggled to England, but failed to germinate.

In 1872 a book appeared in London, entitled *Rough Notes of a Journey Through the Wilderness*.[9] Written by Henry A. Wickham, then a young planter at Santarém, it described a journey he had made from the coast of Venezuela up the Orinoco River and down the Rio Negro to Manaus. Wickham was an amateur botanist, and thus could be trusted to know what a rubber tree looked like. Apparently he also was recommended by Hay, who wrote an appendix to Wickham's book describing the process of rubber collection along the Amazon River. In 1875 the English offered Wickham £10 per thousand seeds for as many as he could get.[10] He turned out to be more conscientious than the Foreign Office had imagined, sending 70,000 seeds to London.

Seventy thousand seeds would have been impossible to smuggle out of Brazil but for some amazing good luck on Wickham's part. A brand-new British steamer, the *Amazonas*, built especially for the Brazil trade, arrived at Manaus just as the rubber seeds were ripening along the lower Amazon. The officers in charge of the cargo of trade goods offloaded and sold them, then vanished with the pro-

[7] Bates, *The Naturalist on the River Amazons*, 385.
[8] O. F. Cook, "Beginnings of Rubber Culture," *Journal of Heredity*, 19 (1928), 206–207.
[9] Henry A. Wickham, *Rough Notes of a Journey Through the Wilderness* (London, 1872).
[10] H. J. Stern, *Rubber, Natural and Synthetic* (New York, 1967), 8.

ceeds, leaving the hapless captain anchored off Manaus with no cargo and no way of getting one. Wickham heard about the incident and immediately contacted the captain of the *Amazonas*, chartering it in the name of the Indian government (which he had no authority to do) and instructing the captain to bring his ship to the junction of the Tapajoz and Amazon rivers a few weeks later to pick up his cargo.[11] Meanwhile, Wickham set to work collecting his seeds on the Tapajoz plateau, with the aid of Tapuyo Indians.

Wickham's rendezvous with the *Amazonas* went off perfectly. The problem of customs inspection was settled by having the new English consul at Pará, who was in on the scheme, second Wickham's plea for quick clearance of "delicate botanical specimens specially designated for delivery to Her Britannic Majesty's own Royal Gardens of Kew." [12] The customs men waived an inspection, and the seeds were off to England and then Ceylon to become the nucleus of the entire East Asian plantation industry.

In Brazil the importance of Wickham's coup was denigrated. At first it was asserted that *Hevea* trees wouldn't grow in Asia. When the trees at Heneratgoda Bontanical Gardens in Ceylon flourished, it was claimed that they wouldn't yield rubber. When one of the Heneratgoda trees yielded 275 pounds of dry rubber in 3½ years. it was claimed that the rubber would prove to be of inferior quality. When the rubber was proved not only of the best quality, but much cheaper to produce than "wild" Brazilian rubber, the Brazilians conceded. But in 1876, there were only a few seedlings at Heneratgoda, and no *Hevea* plantations anywhere in the world. Brazil was the center of the rubber-producing industry, and rubber was becoming increasingly profitable. In the middle and late 1870s prices were depressed, but after 1880, buoyed up by the demand resulting from the bicycle craze, and later the automobile, prices rose almost continuously. After 1885 the price of fine Pará rubber never went below sixty cents a pound, and reached a dollar more than once before the turn of the century.[13]

Organization of the Brazilian Rubber Industry

In 1850 the collection of wild rubber in the Amazon was carried on much as it had been for centuries by the aboriginal Brazilian Indians. Only the easily accessible trees were tapped, and then

[11] Wolf & Wolf, *Rubber*, 155.
[12] Henry A. Wickham, quoted in Wolf & Wolf, *Rubber*, 160.
[13] P. W. Barker, "Rubber Statistics 1900–1937," *Trade Promotion Series No. 181* (Washington, 1938), 42.

only part of the year. Henry Bates, in his book *The Naturalist on the River Amazons* noted the informality of rubber tapping: "The rubber trees seem to be no man's property hereabouts. The people we met with told us they came every year to collect rubber on these islands [on the Amazon delta near Pará] as soon as the waters had subsided, namely, in August, and remained till January or February."[14]

The native system was not well suited to the demands of an industrial world to which rubber was rapidly becoming a critically important commodity, and it did not survive the increasing demand and higher prices of the 1880s. For one thing, the trees on the riverbanks near Pará were overtapped and ceased to yield well. Someone had to go back from the banks, into the forest, and locate tappable trees, something Bates' part-time collectors were not willing to do. New areas had to be opened up. Transportation had to be provided to get the rubber to Pará or Manaus for export. Most important of all, some solution had to be found to the chronic labor shortage that developed as a result of the opening of new areas for rubber-gathering. Rubber-tapping was a labor-intensive business, and the native population was far too small to provide the necessary number of workers.

The labor problem was to remain the most pressing throughout the boom years of the rubber industry. The source of labor was ready enough: the parched Brazilian Northeast, where many of the inhabitants eked out a living on the edge of starvation. In 1877 and 1878, a drought far more severe than usual struck the Northeast, coinciding closely with the beginnings of big business in the rubber industry. The recruiters sent by the Amazonian rubber factors did not have to offer much to convince starving and destitute men to leave their homes for the jungle. Many *nordestinos* succumbed to the promises made by these men, who offered an advance payment of 500 *milreis* and free passage to their work location. What the recruiters did not say was that the advance and passage cost would be debited to the accounts of these unfortunate laborers, along with a 20 per cent "commission." This left the *seringueiros* (as the rubber tappers were called) perhaps 800 milreis in debt before they had even seen a rubber tree.[15]

The men whose agents recruited in the Northeast were known as *patrões*; they had direct control over the *seringais*, or rubber estates, of the Amazon. Some had been seringueiros in the early days of the

[14] Bates, *Naturalist*, 73–74.
[15] Jospeh Woodruffe, *The Rubber Industry of the Amazon* (New York, 1911), 61–62.

industry, and had acquired squatter's rights over an area along the bank of one or another river. But as rubber prices rose, control passed into the hands of fewer and fewer men. The local smallholder was rapidly displaced by the wealthy man with political connections.

Once a patrão had secured title to a piece of land, by purchase, squatter's rights or force, it had to be developed. The first necessity was the laying out of *estradas*, looping paths five or six miles long that ran from a point on the riverbank into the jungle, past 150 to 200 rubber trees, and back to the starting point. The men who laid out these paths were known as *matteiros*; they were the highest-paid laborers in the Amazon, receiving the equivalent of a dollar per rubber tree for their work, and possessed an uncanny talent for finding rubber trees and connecting a maximum number of them with the shortest possible path.[16] Conditions for the seringueiro were primitive; the housing was minimal and the estrada path was anything but a broad, clear highway. In *The Rubber Country of the Amazon*, Henry Pearson describes a typical estrada: ". . . if the reader has pictured a sylvan pathway, broad and smooth and easy to traverse, he is going too far. A stranger, unused to a forest, would never suspect the existence of these paths, and once he was on one would have difficulty following it." [17]

Adding to the seringueiro's difficulties was the four-to six-month rainy season, during which his trees could not be tapped at all. Moreover, he had to buy all his food and clothing, and the implements he would need to tap his rubber trees, on credit from the patrãos store. Prices were predictably outrageous – from 50 per cent to 200 per cent above the patrão's cost.[18] Unless rubber prices were very high, the patrão probably made more profit from what he sold the seringueiro than from the sale of rubber. All of those necessities were debited to the seringueiro's account at the beginning of each rubber-gathering season, and the debt was liquidated by the delivery of rubber to the patrão.

The rubber the seringueiro collected was brought to a central location about twice monthly and weighed, 10 per cent being deducted for "shrinkage." One half the remaining amount was the patrão's, the other half the seringueiro's. From the seringueiro's half another 10 per cent was deducted to cover freight and port charges. Whatever was left was credited against the seringueiro's outstanding

[16] Woodruffe, *The Rubber Industry of the Amazon*, 101.
[17] Henry Pearson, *The Rubber Country of the Amazon* (New York, 1911), 65–66.
[18] Akers, *The Rubber Industry*, 65–66.

debt at the prevailing price. If by some chance the value of the rubber exceeded the amount of the rubber gatherer's debt, he was paid the difference in cash. This did not often happen.[19] Some of the worst perils a seringueiro faced, however, were things his patrão had little to do with. Many, many rubber tappers succumbed to disease or hostile Indians and left their bones in the jungle. And while debtors were not legally bound to their creditors in Brazil, a long trip down a wild river alone was risky venture for any man, even a jungle-hardened seringueiro.

The patrão was in some ways as much of a debt peon as his seringueiros. The goods he bought for resale to his workers were supplied by an *aviador*, a wholesaler based in Manaus or Pará. The aviador made up a sort of "package deal," obtaining from various sources all the needs of the patrão and quoting a single price that included river freight, warehouse charges, and of course a substantial profit margin. Sales by aviadors to patrões were made on credit, just as were the patrão's sales to his seringueiros. The aviador shipped the patrão the entire package at the beginning of the rubber-tapping season, and then became consignee for all the patrão's rubber shipments, which were applied by the aviador to the liquidation of the outstanding debt. The patrão did not charge his seringueiros interest on the amounts they owed him, but the aviador charged the patrão 10 per cent to 20 per cent from the date of invoice of the goods to the date rubber was delivered in payment.[20] The patrão, unlike the seringueiro, normally managed to liquidate his debt by the end of each season. But this topheavy, cumbersome system, with its exorbitant markups and interest charges, had a major part in insuring that Brazilian rubber would not be price-competitive with East Asia.

Rise Of The Asian Industry

At the turn of the century the Amazon Basin and Africa were the world's two main sources of supply, accounting between them for over 90 per cent of total production. But the volume of wild rubber shipments was unpredictable. While demand grew rapidly, rubber output fluctuated from year to year, actually declining in 1902 and 1908.[21] Prices rose as output lagged further and further behind demand, but there seemed to be no new sources of wild rubber

[19] Akers, *The Rubber Industry*, 97.
[20] Woodruffe, *The Rubber Industry of the Amazon*, 50.
[21] Barker, "Rubber Statistics 1900–1937," 5.

available, and no one yet dreamed that plantation rubber could supplant wild production. However, by 1890 Henry Wickham's seeds had grown into trees in Ceylon, and the botanists at Herenatgoda were beginning to obtain answers to the question of whether plantation rubber culture of the *Hevea Brasiliensis* was commercially possible. The first tappings of the young Heveas were attempted in 1882, mainly to see if the trees would yield rubber at all. Once it was established that the trees did contain latex, the botanists devoted themselves to devising methods of tapping that would be superior to the Brazilian system. The Brazilian *machadinho* was known to damage the cambium of the rubber tree, causing swelling and a reduced flow of latex. After a great deal of experimentation, Dr. Henry N. Ridley of Singapore developed a method of excising the bark, rather than cutting into it, which gave very good yields.[22]

Still, questions remained in many areas. Since Sir Clements Markham's choice of the *Hevea Brasiliensis* in 1870, dozens of plants not previously known as rubber yielders had become commercially important. In most cases no research at all had been done on the practicability of cultivating them. One tree with which plantation culture had been attempted was the *Castilloa elastica*; the results had been very poor. And many planters were simply unwilling to invest capital, labor, and land in an untried crop. "The idea of cultivating a 'jungle forest tree'," said Henry Wickham, "was looked upon as not less than visionary." [23]

Then, during the late 1880s and 1890s a coffee blight ravaged many areas of East Asia. The coffee industry in Ceylon was completely wiped out, and many planters turned to rubber cultivation. Rubber could be planted on land previously cleared for coffee, and thus provided a way to salvage part of the investment.[24] The first commercial rubber plantations in Ceylon must have been established sometime in the early 1890s; the first shipment of plantation rubber – one and a quarter tons – to reach world markets came from Ceylon in 1898, and it sold at the price then prevailing for fine hard Pará rubber from Brazil.[25]

After that first shipment in 1898, things began to move more rapidly. In Singapore, Dr. Henry N. Ridley reported that "the demand for plants and seeds of Pará rubber was greatly in excess of

[22] I. H. Burkill, "Early Distribution of Para Rubber Plants," *Bulletin* (Straits Settlement, 1915), quoted in *Journal of Heredity*, 19 (1928), 202.

[23] Henry A. Wickham, *On the Plantation Curing and Preparation of Para Indian Rubber*, 45-47, quoted in *Journal of Heredity*, 19 (1928), 207.

[24] Akers, *The Rubber Industry*, 166.

[25] O. Labroy, *A Borracha no Brazil* (Rio de Janeiro, 1913), 12.

supply, but 21,035 plants and 10,875 seeds were supplied to planters in Singapore, Selangor, Malacca, Pahang, British Borneo and elsewhere."[26] Ridley, the director of the Singapore Botanic Gardens, was the most active of the handful of botanists seeking to popularize rubber cultivation in East Asia. Until 1898, his efforts had had little effect. Even the 21,035 plants mentioned above would cover just a bit more than 140 acres.

In 1906 the first rubber congress in East Asia was called at Perideniya, Ceylon. The excellent results achieved by the pioneer rubber plantations were reported, as were the proper methods of cultivating rubber trees. Herbert Wright, then Controller of Experiment Stations, Ceylon, made some rosy – and, as it turned out, conservative – predictions about the future demand for rubber.[27] The subsequent boom in rubber planting was probably due as much to the prevailing high prices as to Wright's propaganda efforts, but in any case, by 1909, 184,000 acres were producing rubber in Ceylon alone, and 241,000 more in British Malaya.[28] Because of the minimum seven-year wait between the planting and tapping of rubber trees, production figures and profits lagged far behind plantings. Even in 1906, however, 10 per cent dividends on paid-in capital were more the rule than the exception. Plantation rubber, although it was cured with acetic acid instead of smoke, was gaining favor with manufacturers because of its low percentage of impurities. While even upriver fine Pará, the best Brazilian grade, contained from 16 to 20 per cent foreign matter, plantation fine rubber contained less than 2 per cent.[29]

The missionary work of Dr. Ridley and others was financed by the British government, which made every effort to assure favorable conditions for rubber cultivation. Import duties on goods necessary for the cultivation of rubber were low, and export taxes on the finished product ranged from low to non-existent. Rubber for export was not taxed at all in Ceylon, and in the various Malaysian jurisdictions the levy ranged from 2½ per cent to 5 per cent *ad valorem*.[30] Cheap and dependable transportation was provided to

[26] Henry N. Ridley, *Annual Report Straits Settlement, Royal Botannic Gardens* (N.P.: 1897), quoted in *Journal of Heredity*, 19 (1928), 210.

[27] Herbert Wright, *The Science of Para Rubber Cultivation*, (Colombo, 1907), 37.

[28] "Some Notes on Plantation Rubber," *The India Rubber World* (hereafter referred to as *IRW*, 41 (1909), 15.

[29] A. J. de Sousa Carneiro, *Rubber in Brazil* (Rio de Janeiro, 1913), 77.

[30] Akers, *The Rubber Industry*, 176.

European and American markets. By 1910, high-quality Asian rubber, sometimes selling for less than fine hard Pará, was beginning to make major inroads on world markets.

Weaknesses In The Brazilian Industry

The rubber-producing countries of Amazonia presented a striking contrast with East Asia. Rubber was regarded by Brazil as a sort of "black gold," so valuable that no encouragement was needed to induce men to seek it out. Despite ample evidence that the life of the seringueiro was not pleasant, no attempt was made to improve his lot. And the awkward system of river transport on the Amazon, which frequently involved multiple transshipments from canoe to steam launch to riverboat to ocean freighter, seems to have been considered entirely satisfactory. As long as the rubber gatherers paid their taxes, the governments of Brazil, Peru, and Bolivia seemed willing to sit by and watch their treasuries fill up.

Brazil's tax levies were gigantic. In the states of Amazonas and Pará, import duties were fixed at 100 per cent of the value of all imported goods.[31] Since the seringueiro subsisted largely on imported canned food, and most of his tools were also imports, these taxes fell heavily on him. To the cost of the imports plus tax were of course added the enormous markups of the patrão, making the seringueiro's cost of living unbearably high. Amazonas and Pará, as well as Matto Grosso and the federal territory of the Acre, also levied onerous export taxes on all rubber shipments. Before 1913, the base levy was 20 per cent in all areas, with additional local and special taxes above and beyond that. One of the main objectives of the ambitious Brazilian *Defesa da Borracha* (Defense of Rubber), promulgated in early 1912, was the reduction of these levies. The effort met with little success: "Finally Pará and Matto Grosso agreed to an annual diminution of ten per cent in the existing charge of twenty per cent until the tax was reduced to ten per cent on the value of all shipments [this was the plan of the *Defesa da Borracha*], the Federal Government on its part undertaking to apply similar terms for the rubber produced in the national territories . . . [however] the Governor of Pará has stated publicly that he favors retention of the full twenty per cent . . . and continues to levy that rate."[32]

The enormous tax revenues from rubber were used largely to

[31] Pearson, *The Rubber Country*, 98.
[32] Akers, *The Rubber Industry*, 106-107.

finance the construction of vast public buildings and for the creation of whole new departments of State government. The most spectacular use of revenues was in the construction of the Teatro Amazonas in Manaus, a gigantic opera house built largely of materials imported from Europe at stunning cost. The government of Amazonas fondly hoped that European opera companies could be lured to the Amazon to perform for the rubber barons, but fears of yellow fever outweighed all the inducements Amazonas offered, and few opera companies came to the Teatro. Most of the Federal tax revenues from the Acre territory were spent in southern Brazil; the upper Amazon got no public buildings as a monument to all the "black gold" that came down from the Acre and Purús Rivers. But the Brazilian Federal Government did undertake one major project in connection with the rubber boom: the Madeira-Mamoré Railway, built to provide a route around the rapids on the Madeira River and to settle a border dispute.

The border between Bolivia and Brazil ran through trackless jungle inhabited by only a few aboriginal Indians, and until the development of the rubber industry there had been no particular incentive to define the border closely. But as rubber prices rose, Brazilian seringueiros flooded into the area, and the question of where the border lay became pressing. In the dispute, Brazil won, largely because of the number of Brazilian nationals already in the area. Bolivia ceded 191,000 square kilometers of the upper Amazon, including the Acre River, to Brazil, and therefore lost its only navigable outlet to the Atlantic Ocean.[33] Brazil agreed to pay an indemnity for receipt of this huge and valuable chunk of the Amazon, which contained some of the finest rubber-producing regions in the whole valley, and agreed to build the railroad around the rapids of the Madeira River in order to give Bolivian commerce an easy route to the Atlantic.

In the tradition of just about everything constructed in Amazonia during the rubber boom, the Madeira-Mamoré Railway was expensive. Two hundred twenty miles long, it cost $30,000,000, or about $137,000 per mile.[34] Because no native wood could resist the attack of the cupîm termites, crossties of eucalyptus wood were imported from Formosa, and North American white pine was used in construction of buildings.[35] Despite its high construction cost, the

[33] Frederic William Garzert, "The Boundary Controversy in the Upper Amazon Between Brazil, Bolivia and Peru, 1903–1909," *The Hispanic American Historical Review*, 14 (1934), 435.

[34] Frank W. Kravigny, *The Jungle Route* (New York, 1940), xix.

[35] P. H. Ashmead, "The Madeira-Mamore Railway," *Bulletin of the Pan American Union*, 32 (1911), 443.

railroad might have managed to pay for itself, and would certainly have carried a substantial volume of traffic, if it had been opened while the price of rubber was high. But the first train did not run the length of the road from Pôrto Velho below the rapids to Guajaramirím above them until July 15, 1912, more than a year after prices had collapsed. Traffic was always light, and just over two years after being opened to traffic, the Madeira-Mamoré Railway declared bankruptcy.[36]

No other serious attempt was made by the Brazilian government to improve transport in Amazonia. River channels were never marked or dredged, and the tremendous changes in river level from the rainy to the dry season, sometimes over forty feet, made navigation hazardous on all but the largest and deepest rivers. Ships frequently ran aground, and sometimes sand built up around them before they could be refloated, trapping them permanently.[37] Improvements to the harbors at Manaus and Pará were made necessary by the sheer volume of traffic generated by the rubber boom. The Port of Pará, an American company headed by Percival Farquhar, was commissioned to build an elaborate system of quays, warehouses, and repair facilities in April of 1906.[38] The Brazilian federal government guaranteed the construction bonds, and levied a special tax of 2 per cent *ad valorem* on all rubber exported through Pará to service them.[39] The work was incomplete when the collapse of the rubber boom halted construction in 1912, but even so the facilities proved more than adequate.

The port improvements at Manaus, begun in 1902, were less grandiose than those of Pará, though probably no cheaper to operate. The Manaos Harbor Ltd., a British company, faced a difficult problem in designing the docks at Manaus: the river level rose and fell thirty to forty feet annually. To overcome these tremendous changes, the company devised a system of floating docks, from which cargo was transferred to the shore by means of aerial cables. Henry Pearson, the editor of the *India Rubber World*, remarked on seeing this unique arrangement during his first visit to Manaus in 1910: "I was told that it cost 38¢ to transfer each case of rubber from the pier to the deck. Not a long journey, but expensive when one considers that that is just about what it would cost to ship the same case from New York to Australia."[40]

[36] *IRW*, 51 (1914), 88.
[37] Kravigny, *The Jungle Route*, 37.
[38] William L. Schurz, "Rubber Production in the Amazon Valley," *Trade Promotion Series No. 23, Crude Rubber Survey* (Washington, D.C., 1925), 146.
[39] Akers, *The Rubber Industry*, 107.
[40] Pearson, *The Rubber Country*, 100.

By 1909 rubber was Brazil's second largest export crop, behind coffee. But despite the vital importance of rubber as a source of tax revenues and foreign exchange earnings, there was great uncertainty over how much a pound of Brazilian rubber actually cost to produce. Part of this uncertainty was due to the nature of the industry — costs varied both with the industriousness and tastes of the individual seringueiros, and with the location of the producing areas — and part to the Brazilian propensity for not keeping records. In 1913 a Britisher, Charles Akers, produced some plausible estimates in his comparison of the Asian and Brazilian rubber industries. Assuming the average seringueiro produced 750 pounds of rubber of all grades during a season, Akers arrived at a cost of about sixty cents per pound of cured dry rubber.[41] The proportions of *fina*, *entrefina*, and *sernamby* in total output varied from year to year, from one rubber-producing region to another, and from seringueiro to seringueiro. But from 1900 on, generally about 50 per cent of each year's exports were reported as fine hard Pará, the rest being a mix of entrefina and sernamby (scrap) rubber. Since entrefina and sernamby usually sold for half, or less than half, the price of fine hard Pará, it can be estimated using Aker's figures that a price of at least ninety or ninety five cents per pound of fina would be required to make the collection of Amazonian latex profitable.

Cost figures for East Asian plantations are more easily available. Although in 1909 rubber was still a very new crop, and there was a great deal of experimentation with various types of tapping systems and methods of coagulation of latex, the cost per pound of rubber on almost any Asian plantation was far below the Brazilian figure. In its annual report for 1909, the Bukit Rajah Rubber Co. of British Malaya released some data that attracted wide attention. Bukit Rajah cited a cost of just over fourteen cents (U.S.) per pound of rubber, cured, packed, and delivered to London. At prices prevailing in 1909, the company estimated an average profit of 86.16¢ per pound of rubber it sold.[42] The Bukit Rajah Rubber Co. was one of the oldest and best managed rubber plantation companies in Asia. But judging from the dividends declared for 1909, it could not have cost some other companies much more to produce their rubber. For the year 1909, the Consolidated Malay Rubber Estates declared an 80 per cent dividend on paid-in capital, as did the Vallambrosa Rubber Co. Vallambrosa was also one of the older Asian companies,

[41] Akers, *The Rubber Industry*, 110.
[42] "The Profits of Plantation Rubber Culture," *IRW*, 41 (1909), 10.

having planted its first trees in 1898. The average rate of profit for seventeen "typical" rubber companies in 1909 was 41 per cent.[43]

These rates of profit were so great that a virtual panic broke out in London as the British public scrambled to buy rubber shares. In January of 1910 the *India Rubber World* was moved by the spectacle to begin a special monthly feature entitled "The British Rubber Craze," which provided running totals of the number of companies organized and the value of shares offered. By July of 1910 a total of 294 companies, with a total capital of $176,000,000, were floated on the London markets. Only eleven of these 294 companies planned ventures in Brazil. All this feverish speculation, however, was only the crest of a wave of plantation expansion that had been building since 1906. From 1906 through 1908, 600,000 acres of rubber had been planted in East Asia; in 1909 alone, 300,000 more were added. In 1910, the year that many of the companies organized during the "rubber craze" began operations, 400,000 acres were brought under cultivation in the Netherlands East Indies, Ceylon, and Malaysia.[44]

In April of 1910 the price of fine hard Pará briefly passed $3.00 per pound, and one lot of plantation crepe rubber from Ceylon sold for $3.24½. Predictably, when the dividend reports began to come in for 1910, they were even more incredible than those of the previous year. The directors of the Vallambrosa Rubber Co., in declaring a 250 per cent dividend for the fiscal year ending in August, 1910, said: "It is respectfully submitted that no other [agri]cultural interest in the history of the world, under normal conditions and in open competition, has ever shown such profits as have been derived from rubber planting." [45]

Brazilian Reaction To Asian Competition

Belatedly, Brazil recognized the threat. Plantation production accounted for less than 5 per cent of world output in 1909, but none of the trees planted after 1905 were yet producing. The Brazilian government decided to call a Rubber Congress at Manaus, to assure rubber consumers, British planters, and the world in general that Amazonia intended to remain competitive. Representatives of all the rubber-producing nations in South America, as well as the

[43] David Figart, "The Plantation Rubber Industry in the Middle East," *Trade Promotion Series No. 2, Crude Rubber Survey* (Washington, 1925), 5.

[44] James Cooper Lawrence, *The World's Struggle With Rubber 1905–1931* (New York, 1931), 15.

[45] *IRW*, 42 (1910), 375.

officers of companies engaged in producing rubber in the Amazon, or who used the Amazonian product, were invited.

The most significant part of the congress was the open discussion of the problems of the Amazonian industry. Delegates offered proposals for the clearing of river channels, and for more and cheaper steamship service. They discussed the perennial labor shortage (with the rapid growth of the industry, there never seemed to be enough seringueiros) and advanced suggestions for improving the lot of the rubber tappers. There was extensive debate of the possibilities of plantation rubber cultivation in Amazonia, and the first real attempt was made to delimit the rubber-producing areas of the Acre and the upper Amazon. The only tangible result of the conference, however, was a promise by the Brazilian government to establish an experimental rubber plantation. No firm commitments were obtained from anyone on the other proposals. But some of the private companies extracting rubber agreed to plant trees in the jungle to replace those which their seringueiros had killed through overtapping.[46]

However limited its accomplishments, the Rubber Congress apparently served as an effective morale-builder for those who were beginning to doubt the viability of the Amazonian industry. Many of the discussions and lectures were held in the spectacular Teatro Amazonas, and the very existence of the modern city of Manaus deep in the Amazon jungle was proof of the wealth that had come with the rubber boom. The editor of the *India Rubber World*, returning from the conference, was prompted to make several optimistic statements about the future of the Amazonian rubber industry. Although conceding the success of Asian plantation rubber, he seemed to feel there would always be room for the wild product: "One mistake our transatlantic friends [the British] have made in regard to rubber . . . is in assuming that plantation products from the Far East will drive the forest rubber areas of the Amazon out of competition. There will always be such a demand for rubber as will insure a profit in this production, and however much Ceylon and Malaysia may produce, Brazil will be called upon continually to increase its output."[47]

Demand for rubber did continue to increase rapidly. But what the editor could not foresee was the incredibly rapid growth of plantation rubber production. In 1910 East Asian plantations accounted for perhaps 10 per cent of world production, and wild

[46] "The Rubber Congress at Manaos," *IRW*, 42 (1910), 216.
[47] "The Rubber Congress at Manaos," 233.

rubber, from Brazil, Africa, and Central America, for 90 per cent. Brazil alone accounted for nearly half the world total. But only three years later East Asia passed Brazil, and by 1920 the proportions were reversed, with wild rubber accounting for less than 11 per cent of a world supply that had grown fourfold.

During early 1910, while the British were investing in rubber companies as fast as the printers could make up stock certificates, and the Brazilians were celebrating three-dollar-per-pound rubber, the public in the United States contented itself with vitriolic attacks on an alleged "Rubber Trust," which was claimed to be behind the swift rise in prices that began in early 1909. The "Rubber Trust" seems to have been largely a creation of editorial writers of that trust-busting era. At the time of the furor over high rubber prices, United States manufacturers were in fact trying hard to reduce their dependence on high-priced Brazilian rubber. In June of 1910, the *India Rubber World* asserted: "In one, two or three years ninety per cent of all this rubber [used to make automobile tires] will come back to the manufacturers through reclaimers."[48] American interests were also heavily involved in the development of methods for extracting rubber from the *guayule* shrub, a native of arid northeast Mexico. In 1910 about 9500 tons of rubber came from guayule, up from only 335 tons five years earlier.[49]

The Brazilians were certainly not opposed to manipulating the market if they saw some benefit in it for themselves. In 1907 the Brazilian government quietly engaged in a scheme to buy up Amazonian rubber in order to raise the price, and succeeded for a time. But in the autumn of 1907 there was a recession in the United States, the world's largest consumer of rubber. Hard on the heels of that recession came especially large shipments from Amazonian producers, prompted in part by the prevailing high prices. The result was a collapse of the support scheme when the government ran out of funds for the purchase of all that rubber, and a collapse in the price of fine hard Pará from its 1907 high of $1.38 to an early 1908 low of $.82 per pound, the lowest figure since 1902, when the huge supplies were dumped on the New York market.[50] After this experience, Brazil was understandably reluctant to undertake any more schemes of this kind, at least for a while.

By 1910 there was general agreement that whatever the reason for three-dollar-per-pound rubber, the market would not long sup-

[48] "What Helps to Keep Rubber Dear," *IRW*, 42 (1910), 300.
[49] P. W. Barker, "Rubber Statistics 1900–1937," 5.
[50] Lawrence, *The World's Struggle With Rubber*, 14.

port a price that was three times the production cost of Amazonian wild rubber, and eight to ten times that of the plantation product.[51] These expectations were confirmed as early as December of that year, when fine hard Pará sank to $1.69. By the end of 1911, the price was down to $1.00 per pound.[52] Everyone except the Brazilians seemed to realize that high rubber prices were not going to last forever. Brazil would not accept the possibility of a price decline; extravagance was piled on extravagance by the governments of the rubber-producing states. Whatever fears may have been expressed about Asian competition at the Rubber Congress in Manaus had been forgotten with rubber at over $3.00 per pound. No further heed was given to the problems of the rubber industry, and plans to build an experimental rubber plantation were forgotten.

But the sharp price decline of late 1910 continued into 1911 as governments and rubber barons alike watched with horror. Ruin threatened the overextended aviadores. The Brazilian government was gravely concerned; for several years rubber had been Brazil's second largest export, and in 1910 it had come close to being number one. In that year coffee exports totaled $127,212,875 (U.S.) against $124,400,714 for rubber.[53] In mid-1911, therefore, the Brazilian government decided to make an attempt to halt the fall of rubber prices. Despite the fact that rubber had fluctuated between $.75 and $1.50 per pound from 1897 to 1908, the support target was set at $2.00. The Bank of Brazil was authorized to buy rubber at that price from producers and hold it until the market price rose to at least that level.[54] This scheme to support rubber prices was no more successful than a number of similar projects to prop up coffee prices. Brazilian rubber shipments in 1911 did decline more than 10 per cent from the 1910 level as a result of the Bank of Brazil's efforts, but the decline in Amazonian output was more than made up for by a doubling of plantation production. The price of fine hard Pará continued to fall and finally the Bank of Brazil was forced to liquidate its rubber holdings at a tremendous loss.

Even while the Bank of Brazil was engaged in its ill-fated attempt to support prices, the Brazilian federal government was drawing up plans for the Defesa da Borracha, Brazil's first real attempt to deal with the long-range problems of the Amazonian rubber industry. Vast in scope, the Defesa da Borracha was a frontal attack on prob-

[51] "The United States Rubber Company's Best Year," *IRW*, 42 (1910), 315.
[52] Jacques Huber, "The Present and Future of the Native 'Hevea' Rubber Industry," *IRW*, 42 (1910), 315.
[53] *Bulletin of the Pan American Union*, 33 (1911), 64.
[54] "Brazil's 'Valorization' Project," *IRW*, 44 (1911), 105.

lems that had plagued the rubber industry since before Henry Wickham stole his seeds. A preliminary announcement, containing a summary of the Defesa Act, was released on January 5, 1912, and the complete text followed on April 17. Ambitious proposals were made for improvement of the Amazonian transportation system. A number of narrow-gauge railways were proposed to circumvent rapids on the Tapajos, Xingú, Negro, and Branco Rivers. Several important rivers in the Acre were to be dredged to render them navigable year-round by vessels of three-foot draft. A railway was proposed to connect Pará with the national railway network at a point in Minas Gerais. And all ships sailing on the rivers of the Amazon Basin were declared exempt from any taxes or duties whatever.

Brazil announced it would establish a network of experimental stations in all rubber-producing states, to study the practicability of cultivating rubber, and the best methods to use in cultivation. Seed was to be distributed free to anyone who applied, and hospitals were to be established throughout the interior of Amazonia to serve the seringueiros, who were also to be encouraged to grow their own foodstuffs. Premiums were announced for anyone undertaking the cultivation of rubber trees, and all equipment and tools used in the rubber industry were declared exempt from import duties. Perhaps most important, the Defesa Act proposed an agreement with the rubber-producing states whereby they would lower their export taxes on wild rubber by 10 per cent per year, up to a maximum reduction of 50 per cent (i.e., to 10 per cent from 20 per cent *ad valorem*). Plantation rubber was to be completely exempt from all export levies.[55]

The accomplishments of the Defesa da Borracha were much less grandiose than its aims. Import duties were abolished on tools and materials for rubber cultivation, and one experimental station was set up near Belém (Pará). Amazonas lowered its export tax to 18 per cent, and then to 15 per cent, but the governor of Pará refused to lower his state's tax from 20 per cent.[56] In late 1915, Amazonas returned its tax to 18 per cent.[57] Almost nothing was done about improving transportation. The government began to build a

[55] Carneiro, *Rubber in Brazil.* The detailed regulations of April 1912 occupy thirty pages of Carneiro's monograph.

Monograph No. 23 is in English. The other twenty-two monographs, published in Portuguese, are detailed surveys of the rubber industries of individual states, and a survey of *Balata* production (Balata is an inelastic rubber similar to gutta-percha, used mainly as an insulating material).

[56] Akers, *The Rubber Industry*, 106.

[57] *IRW*, 53 (1915), 165.

railway to circumvent the rapids on the Tocantins River, but abandoned it unfinished. No dredging of river channels was ever begun, and none of the other railways (with the exception, of course, of the Madeira-Mamoré, which predated the Defesa da Borracha) ever got past the survey stage.[58]

In 1915, Joseph Woodruffe said in his crusading, acerbic book, *The Rubber Industry of the Amazon*: "Much has been expected from the Defesa da Borracha, which cost the Federal Government ridiculous sums of money. The only persons to profit were the highly salaried officials, the sum total of whose efforts was reports of doubtful value, certainly in practice. Its suggestions for the establishment of factories and all the other benefits promised in the Decree of April, 1913, have come to naught, even the tapping tools suggested by experts having failed to show their superiority over the much-maligned machadinho."[59]

Woodruffe's criticism perhaps goes a bit too far. In conception the Defesa da Borracha was a remarkable piece of legislation; had all of its provisions been enacted, Brazil might have remained a competitive producer of rubber for much longer. The failure of the Defesa was due not so much to maladministration as to lack of resources. Brazil possessed neither the money nor the skilled personnel to rectify all the inefficiencies of the Amazonian rubber industry in a few years. One recurring assumption — expressed or implied — in the statements of both the Brazilian government and rubber experts was that since the *Hevea Brasiliensis* was native to the Amazon, it should grow better there than anywhere else. The Superintendencia da Defesa da Borracha never had a chance to test this assumption. But twenty years later, Henry Ford's Brazilian project, with the enormous resources of the Ford Motor Company behind it, proved unable to establish profitable rubber plantations in Amazonia.

Rubber shipments from the Amazon peaked in 1912 at just over 41,000 tons. With the failure of the Defesa da Borracha in 1913, and a steep fall in prices, output slumped to 35,000 tons in that year, and declined further, to 33,000 in 1914. In 1913 Asian plantations shipped 59,000 tone of rubber, exceeding Brazilian production for the first time. In 1914 East Asian output reached 74,000 tons and the price of fine hard Pará rubber sank to sixty-three cents per pound in New York.[60]

[58] Schurz, "Rubber Production in the Amazon Valley," 38.
[59] Woodruffe, *The Rubber Industry of the Amazon*, 123.
[60] P. W. Parker, "Rubber Statistics 1900–1937," 43.

The beginning of World War I prevented the price of rubber from dropping any further; through the war years fine hard Pará and best-quality plantation rubber sold for an average of sixty-five cents per pound. Brazilian producers could make money at this low price only if they controlled costs carefully. The result of the price fall was thus a complete disappearance of the aviadores; in the interests of economy patrões dealt directly with importers and wholesalers. Seringueiros began, out of necessity, to grow their own food. And the old system of credit purchases vanished. Everyone, including the seringueiros, paid cash.[61] Other economies were adopted as well. During the height of the boom, rubber was carefully packed in wooden crates and shipped to the exporters at Manaus or Pará aboard river steamers. In 1914 Asensi & Co., a rubber company on the Machado River, simply threaded a rope through holes in the centers of a hundred or so pelles of rubber, making a sort of raft which was marked with a flag and tossed in the river to float downstream to market. Two men were detailed to follow the "raft" in a canoe and haul it out at its destination.[62]

In December of 1914 something happened that started the Brazilians dreaming of the return of boom times. The British, attempting to deprive the Central Powers of rubber supplies, embargoed rubber shipments by their colonies to any point outside the British empire. Over 60 per cent of the world's rubber came from British East Asia, but the United States consumed nearly three-quarters of world production. For one month it appeared as though Brazil would, out of necessity, again become a major supplier of rubber. The price of fine hard Pará doubled and United States manufacturers issued dire warnings of the effect the embargo would have on business. The United States quickly agreed to refrain from shipping rubber products to Germany, however, and the embargo was lifted in late January 1915.[63]

During the war years plantation rubber production increased almost exponentially – from 74,000 tons in 1914 to nearly 350,000 in 1919. The price of rubber remained high only because of the huge wartime needs of the Allies. But after the signing of the Armistice

[61] "The Rubber Situation in Brazil," *IRW*, 51 (1914), 62. "The Rubber Situation in Brazil" was a regular monthly feature in the *IRW* until the early 1920s. After 1912 it was usually just a short letter from "our regular Brazilian correspondent." His name was never given.

[62] "The Rubber Situation in Brazil," 63.

[63] *IRW*, 52 (1915), 179.

in 1918, things took a turn for the worse in the rubber industry. The end of World War I was followed closely by a severe business depression; the demand for crude rubber collapsed, and in early 1920 the price started falling. By the end of that year best-quality plantation rubber was selling for nineteen cents per pound. In July of 1921 the price reached an all-time low of just over fourteen cents.[64]

At this price even the most efficient plantation companies could barely make a profit; for Amazonian producers it was a disaster. The Amazonian industry had managed to produce about 33,000 tons of rubber a year throughout the war, but when the price hit fourteen cents a pound, shipments from the Amazon Basin sank to their lowest point in 30 years. In late 1923 a United States mission studying rubber production in Amazonia reported: "At the present time the industry is in a very uncertain and demoralized condition. On some rivers in Brazil . . . the rubber area has been abandoned and the population has moved to other sections. In Peru gathering has practically ceased. Rubber is still being produced in eastern Bolivia, but this is mainly due to the fact that a few individuals control immense acreages, and even here production has been curtailed."[65]

Brazil accounted in 1921 for about 8 per cent of world rubber production, and there was therefore little (if any) international concern over the plight of the Brazilian industry. But in East Asia the situation was very different. Ninety-two per cent of world's rubber came from East Asia, and 75 per cent of that production was from British-controlled areas.[66] The British government saw a great opportunity in the prostrate Asian rubber industry. While British companies in British colonies produced 67 per cent of the world's rubber, most of their exports went to the United States, which consumed over 70 per cent of the world's production. Therefore, any scheme to aid the plantation rubber industry by raising prices would also aid the stockholders of British rubber companies, and the British government. The United States, of course, would pay most of the bills. To the British government, saddled with huge war debts, this was a very attractive proposition.[67]

The Act of Parliament known as the Stevenson Rubber Restriction Act took effect on November 1, 1922. It was very simple: the amount of rubber released for export from British East Asia in any

[64] Figart, "The Plantation Rubber Industry in the Middle East," 4.
[65] Schurz, "Rubber Production in the Amazon Valley," 8.
[66] Figart, "The Plantation Rubber Industry in the Middle East," 3.
[67] Lawrence, *The World's Struggle with Rubber*, 35 ff.

calendar quarter was to be some percentage of "base" 1919–1920 output, depending on the average price of rubber in the preceding quarter. Any exports above the quota for each plantation were to be taxed at a prohibitive rate. In the first quarter of the scheme's operation, exports were set at 60 per cent of base production.[68] The United States was slow to realize the potential cost of the Stevenson scheme. In 1923 U.S. rubber manufacturers were just recovering from the recession, and production was still at very low levels. Only Harvey S. Firestone, the head of the Firestone Tire & Rubber Co., spoke out in opposition to the restriction. In February 1923 he convinced the U.S. Congress (if not his fellow manufacturers) that the United States ought to have rubber supplies under its control. The result of Firestone's efforts was a $500,000 appropriation for studies of all possible rubber-producing areas in the world, with the aim of determining the feasibility of establishing U.S.-owned plantations.[69]

But Firestone did not content himself with simply trying to prod the United States government into action. He undertook studies of his own, and approached his close friend Henry Ford about a possible Ford interest in rubber plantations. Whether by arrangement, or simply because his attention was attracted by Firestone's one-man crusade, the Brazilian consul in New York wrote Henry Ford in April 1923, to advise him that favorable terms were available to American companies that would undertake to "cultivate rubber plantations in the State of Pará."[70] Apparently by agreement with Ford, Harvey Firestone turned his attention to areas outside the New World. But Ford became seriously interested in Brazil.[71]

After four years of research on plantation possibilities and protracted negotiations with the Brazilian federal government, during which time the workings of the British rubber restriction scheme

[68] "Second Report of the Stevenson Committee," reproduced in Lawrence, *The World's Struggle With Rubber*, 113.

[69] Lawrence, *The World's Struggle With Rubber*, 51. Besides the reports by Schurz and Figart, the Crude Rubber Survey project also produced "Marketing of Plantation Rubber," by J. J. Blandin (Bulletin No. 180) and "Possibilities for Para Rubber Production in the Philippines," by C. F. Vance et al. (Bulletin No. 17). I believe there was a study of Africa as well.

[70] J. C. Alves de Lima in a letter to Henry Ford, quoted in Mira Wilkins and Frank Ernest Hill, *American Business Abroad* (Detroit, 1964), 166.

[71] Firestone established a plantation in Liberia at about the same time that Ford was considering his Brazilian venture. Unlike Fôrdlandia and Belterra, Firestone's plantation was an almost immediate success. In 1940, when Ford was still struggling to produce 1,000 tons of rubber a year, Firestone shipped 7,000. By the end of World War II, output from the Firestone venture had reached 20,000 tons. Further, the plantation still produces rubber; in March 1975 the Washington *Post* carried a filler item about Liberian rubber shipments to U.S. ports.

had forced the price of best-quality rubber to $1.23 per pound, Ford decided to take the plunge. On October 26, 1927, the company announced the acquisition of 2,500,000 acres along the Tapajos River in the State of Pará.[72] Initially there were high hopes for the Ford project. Special exemptions on import and export duties were granted to Ford by both the Federal government and the State of Pará. In December 1927, the *India Rubber World* declared: "In less than ten years 80,000 acres can be planted . . . with labor now available in the surrounding region, and a few years later production should average forty million pounds of rubber, at least."[73]

However, problems appeared almost immediately. The perennial internecine dispute between the States of Amazonas and Pará began again: high-quality rubber seed was to be brought from Matto Grosso for the Ford plantation, but the State of Amazonas would not let it pass. Instead, the governor tried to persuade Ford to relocate across the Tapajos in Amazonas. After lawsuits against the state failed to gain release of the seed, Ford gave up and planted inferior seedlings from Pará.[74] From the beginning the work of planting went slowly. In November of 1931, the manager of Fôrdlandia, as the plantation was known, pointed out to Ford management that in three years less than 3300 acres of rubber had been planted, although on East Asian plantations it was customary to start 15,000 to 18,000 acres per year.

Fôrdlandia began to seem increasingly unsatisfactory to Ford managers. The hilly terrain made clearing, planting and the tapping of rubber trees difficult and costly. Worse, the Tapajos River proved to be too shallow during the dry season to permit navigation by ocean-going ships.[75] In 1935 Ford arranged to trade a piece of the vast Fôrdlandia concession for a new tract of land thirty-one by thirty-nine miles, only twenty-six miles above Santarem on the Tapajos. The new concession was named Belterra, and Ford began all over again the work that had been done at Fôrdlandia: construction of a new town in the jungle to house Ford employees, and the clearing and planting of land with rubber trees. Belterra was a better choice than Fôrdlandia. The Ford town of Pindobal could be reached all year by ocean-going vessels, the soil was rich, and the land was level. Planting progressed much more rapidly than at Fôrdlandia; in five years 12,300 acres were under cultivation,

[72] "The Ford Rubber Concession in the Amazon Valley," *IRW*, 77 (1927), 56–57.
[73] "The Ford Rubber Concession," 56.
[74] Wilkins & Hill, *American Business Abroad*, 172.
[75] "The Ford Rubber Plantations: I" *IRW*, 104 (1941), 35.

planted with high-yielding stock from East Asia.[76] It appeared that Ford's Brazil Project was finally going to produce some results.

But the worst problem Fôrdlandia and Belterra were to encounter came only after the rubber trees were in the ground and apparently well established. Beginning in 1935, epidemic attacks of bugs, root disease, leaf blight, and viral and fungal infections decimated the young rubber trees. The seedlings grown from native seed proved no more resistant than the high-yielding East Asian strains. Caterpillars and sauba ants, red mites, black crust, yellow scale, lace bugs (a pest unknown in Amazonia before the start of the Ford plantation) and South American leaf blight weakened and killed many trees.[77] In East Asia the *Hevea Brasiliensis* had no serious problems with disease; in 1906 the Comptroller of Experiment Stations in Ceylon reported only a type of root rot.[78] But in Brazil, all the Hevea's natural pests were close at hand. When the trees were scattered through the Amazon rain forest, a pest that attacked one tree would not necessarily attack another. But in close proximity on the Ford plantation, the Hevea trees provided an easy target. Ford was never able to control the diseases that afflicted its trees; as soon as one infestation was brought under control, another would appear. In 1942 a Ford executive visited Belterra, just in time to witness the appearance of a tremendous horde of caterpillars, which came, he said, "in swarms like locusts, and laid their eggs only in the new shoots at the top of the trees. At that height they cannot be seen until it is too late, then they swarm down the tree eating all before them."[79] A severe attack of leaf blight followed the defoliation by the caterpillars, and after losing their leaves twice, many trees were too weak to put out a third flush of foliage.[80]

Neither Fôrdlandia nor Belterra ever came close to profitability; rubber output from the two plantations rarely exceeded 1,000 tons per year, even during World War II when East Asian producing areas had been lost to the Japanese. And the successful development of synthetic rubber during the war undermined the rationale for Ford's project. With a domestic synthetic rubber industry able to supply most U.S. needs, there was no longer any reason to fear another restriction scheme.[81] In November 1945, all the Ford properties in Amazonia were sold to Brazil for $244,700. Ford's net loss

[76] "The Ford Rubber Plantations: II," *IRW*, 104 (1941), 45.
[77] "The Ford Rubber Plantations: II," 47–48.
[78] Wright, *The Science of Para Rubber Cultivation*, 8.
[79] Archibald Johnston, Manager of the Ford plantations, quoted in Wilkins & Hill, *American Business Abroad*, 182.
[80] Wilkins & Hill, *American Business Abroad*, 182.
[81] Stern, *Rubber, Natural and Synthetic*, 68.

on the sale was $7,840,177.[82] The Brazilians were eager to try where Ford had failed, and they set out to make Fôrdlandia and Belterra into successful rubber plantations. But they had no more success than Ford. Today Fôrdlandia is used for cattle raising. There is a small experimental station at Belterra which produces a little rubber.[83]

Conclusion

Sixty years ago, the rubber experts who analyzed Brazil's situation were unanimous in blaming the collapse of the Amazonian rubber industry on inefficiency, greed, and governmental complacency and inaction. If the government would only encourage the establishment of rubber plantations, improve transportation, and lower port charges and taxes, these experts asserted, Brazil would be able to regain its rightful place as a major rubber producer.

The export taxes imposed on rubber were clearly excessive, considering the small taxes imposed by those Asian producing areas that taxed rubber exports at all. Eliminating all the Brazilian taxes would have lowered the cost of Amazonian rubber by up to 24 per cent. If these taxes had been eliminated, however, where would the money have come from for all the elaborate projects the rubber experts, and the Superintendencia da Defesa da Borracha, proposed? River channels cannot be dredged and marked without cost to someone. Extensive port facilities are costly to build and to maintain. Railways are very expensive to build and operate through trackless jungles. The Madeira-Mamoré Railway, for example, charged a passenger fare of thirteen cents a mile, and at Manaus the port charges were higher than ocean freight to New York or London.[84] If the Brazilian government had implemented the Defesa da Borracha, these charges might have been lowered by a subsidy. But nothing is free; the subsidy money would have had to be taken from some other use. Whether export tax revenue should have been used to aid the rubber industry is immaterial; its use for that purpose would simply have reduced the short-run profitability of the Amazonian rubber industry in the slim hope of insuring its long-run viability (assuming the tax money was used for capital improvements).

But could Amazonian rubber — even aided by lavish public works projects — have ever competed successfully with the East Asian

[82] Wilkins & Hill, *American Business Abroad*, 183.
[83] Wilkins & Hill, *American Business Abroad*, 184.
[84] Kravigny, *The Jungle Route*, 188. The Manaus port charges are mentioned by Pearson. *Vide* footnote 40.

product? The wild rubber industry certainly could not have; costs could never be as low in the collecting of wild rubber as in the operation of an efficient plantation. It was generally acknowledged as early as 1910, even by some Brazilians, that the future of the rubber industry lay in plantation production. And Henry Ford's experience at Fôrdlandia and Belterra shows that the development of plantation rubber in Amazonia, if it is possible at all, will be very expensive.

East Asian plantations had low capital costs – as low as $350 (U.S.) per acre cleared and planted to rubber, and maintained for the seven years until the trees began to produce.[85] Ford's cost, had the plantations ever been brought into bearing, would have been much higher. High capital costs mean high interest charges. Even assuming equal labor wage rates, an Amazonian plantation would cost more to start and to operate than one in East Asia. But labor in Amazonia has been scarce and expensive for many years, and tapping rubber trees is a labor-intensive operation. Fôrdlandia and Belterra never became the large-scale rubber producers they were intended to be, not only because of high labor costs, but because it would have cost more money than Ford was willing to spend to overcome the problems of insects and diseases.

Plantation rubber cultivation in Amazonia is not impossible – merely uneconomic. The rubber boom of the early twentieth century was caused by a chance combination of factors that drove rubber prices to stratospheric heights, and Brazil just happened to own a valley in which grew the finest known source of rubber in the world – the *Hevea Brasiliensis*. But the Hevea grew better in East Asia than in Amazonia. In 1910 this was plain enough. While the British government had encouraged the first planting of Hevea trees, no subsidy was required to raise further capital for the Asian plantation industry. Two hundred fifty per cent dividends were a sufficient lure. No Amazonian rubber company ever paid such a dividend (at least, none of which there is a record). The Defesa da Borracha was evidence of the relative unprofitability of the wild rubber industry. Despite the construction of monuments like the Teatro Amazonas by the Brazilian state governments, investors knew where the profits lay.

There are millions of acres of successful rubber plantations in East Asia. But costs are too high, and prices are too low, to favor Amazonian rubber, whether plantation or wild. There will be no second rubber boom on the Amazon.

[85] Figart, "The Plantation Rubber Industry," 58.

THE EDITOR'S CORNER

To the Editor:

In a recent short article, John James presented new information on interest rates paid on bankers' balances by New York City banks in the postbellum period.[1] The major finding was that "Over the last part of the nineteenth century and the first part of the twentieth, the rate paid by New York banks on bankers' balances remained virtually stable at 2 per cent."[2] His explanation of this constancy during periods of falling and then rising general interest rates is unconventional: "Only a small part of this total [New York City banks] participated actively in the competition for country deposits, but the constancy of the rates on bankers' balances is clearly indicative of an extremely competitive banking market in New York in the postbellum period."[3]

In a competitive market, one would expect to find uniform prices but not price constancy over time in the face of substantial changes in demand and supply. Given James' evidence of substantial variations in the supply and demand for bankers' balances between 1890 and 1914, one would expect to find substantial changes in interest rates paid on bankers' balances if the market were competitive. The reported rate constancy would be more characteristic of an imperfectly competitive market which could have resulted from collusion among New York City banks.

James reported that during the 1890s rates paid on bankers' balances did not fall below 2 per cent, except for short periods, while other interest rates declined and the rate on call loans fell as low as 1 per cent.[4] New York banks soliciting bankers' balances derived benefits from these balances through continuing customer relationships even when investment opportunities were weak and this accounts for some downward rate rigidity, but the stability of rates in this period of falling interest rates would not seem to indicate a highly competitive market. If the market was in fact competitive, it is even more difficult to explain why rates paid on bankers' balances did not rise in the post-1900 period when interest rates in general rose substantially. As interest rates obtainable on bank earning assets rose, competition would tend to drive up the rates paid by New York banks on bankers' balances. James indicates that rates paid did not rise much above 2 per cent in the post-1900 period. This suggests that the rate was not competitively determined, but somehow administered.[5] Because of the increasing concentration of bankers' balances in the large New York City national banks, the administering of this rate would have

[1] John A. James, "A Note on Interest Paid on New York Bankers' Balances in the Postbellum Period," *Business History Review*, L (Summer, 1976), 198–202.

[2] *Ibid.*, 202.

[3] *Ibid.*, 202. Uniform prices may be a necessary condition for competition but are certainly not a sufficient one.

[4] *Ibid.*, 200–201.

[5] James mentions Sprague's citation of meetings of New York bankers in 1873 and 1884 in which they attempted to hold down or eliminate interest payments on bankers' balances. In the 1890s, they agreed to try to maintain the 2 per cent rate. *Ibid.*, 201–202.

become easier, not more difficult.[6] The National Banking Act put up effective barriers to competition from banks in any other city. National banks were required to hold reserves, a portion of which had to be in lawful money and the rest in reserve deposits in a national bank in a designated reserve and/or central reserve city. Until 1887, New York City national banks were the only ones designated as depositories for both country and reserve city national bank reserve deposits. This monopoly was broken in 1887 when Chicago and St. Louis became central reserve cities.[7] Thereafter, national banks in those cities began to attract reserve balances of country and city banks in their local regions, but the bulk of national bank reserve deposits from the East, South and Far West continued to flow to New York City. New York City national banks therefore had a substantial advantage over other New York City banks and banks in other cities. While there is evidence supporting the competitive nature of financial markets in New York City, that evidence does not extend to the market for New York bankers' balances.

The issue can be examined in terms of the supply and demand for bankers' balances. Bankers' balances were supplied by country and city banks and there is considerable evidence that this supply curve was upward sloping — that is, country banks would supply more balances at higher interest rates paid.[8] Margaret Myers noted that when interest rates on call loans rose, country banks increasingly began bypassing the New York City banks and investing directly in the call loan market.[9] Therefore, the constancy over time of rates paid by New York City banks cannot be explained by a perfectly elastic supply curve. An alternative explanation is that New York City banks participating in the market would accept all balances at a fixed interest rate (2 per cent) and this rate did not change as the rate banks could earn on assets fluctuated widely. This would imply a horizontal demand curve for bankers' balances that did not change position over time. Rather than indicating competition, this would suggest that banks were overtly or tacitly colluding in some manner. A third possibility, demand and supply curves of more normal slopes changing over time to maintain an unchanging rate, seems too unlikely to merit consideration without additional evidence.

Country banks derived services as well as interest on bankers' balances and these probably varied from one New York bank to another. Thus, even in a competitive market, one could observe differences in rates paid, depending on the services offered. For example, Leonard Watkins indicated that most New York City banks would extend credit to their correspondent banks in the form of discounting their commercial paper and/or direct loans. They generally required that the bankers' balances of the

[6] There are various places that this information is available. One such source is Margaret G. Myers, *The New York Money Market*, Vol. I (New York, 1931), 242–250.

[7] Margaret Myers reported that by 1891 most New York City banks had substituted the direct payment of interest on bankers' balances for the rendering of free services. [Myers *The New York Money Market*, 249.] Watkins indicates that there is evidence that the value of the free services was substantially less than the 2 per cent interest the balances could earn. [Watkins, *Banker's Balances*, 213.]

[8] Sprague points out that the central reserve city banks of Chicago and St. Louis maintained large balances in New York City national banks, and during the 1907 panic drew down their balances like many other country and city banks.

[9] Myers, *The New York Money Market*, 267–268; Leonard L. Watkins, *Banker's Balances* (Chicago, 1929) 153 and 209–210.

correspondent bank average 20 per cent of the credit available to the correspondent bank.[10] There were, therefore, non-price reasons for country banks to maintain bankers' balances in *particular* New York City banks (not just any bank). Under these conditions, uniform and inflexible rates for varying products (depending on service offered) could be an indication of a lack of competition.

The constancy of rates paid by New York City banks on bankers' balances during the last part of the nineteenth century and the first part of the twentieth does not support James' contention that the New York market for bankers' balance was extremely competitive. In fact, the evidence suggests that that market was not competitive.

Richard H. Keehn, *University of Wisconsin-Parkside.*

Gene Smiley, *Marquette University*

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To the Editor:

Keehn and Smiley argue in their note that the evidence of stability of the interest rate paid on New York bankers' balances in the late postbellum period that I presented does not support my conclusion of a competitive market there.[11] Instead, they take the constancy of the rate over such a long period to indicate just the opposite, the existence of a noncompetitive market among New York banks. I plead guilty to having been perhaps a bit too facile in outlining my original conclusion; nevertheless, I think that it holds up quite well.

Rigid prices over time resulting from tacit collusion or recognition of mutual interdependence are familiar results from oligopoly models, but they alone cannot be taken as sufficient evidence of noncompetitive behavior. At times during the 1890s the call loan rate, the rate at which the New York correspondent banks lent much of their bankers' balances on deposit, was below the rate New York banks paid on bankers' balances.[12] Certainly a collusive argument cannot be used to explain the constancy of this interest rate when at times it resulted in rates lower than would have prevailed in a traditional purely competitive model. Collusive arrangements would have kept rates lower than they otherwise would have been under pure competition in periods such as the 1890s, rather than higher. Keehn and Smiley's identification of interest rate constancy with noncompetitive behavior illustrates the inadequacy or inappropriateness of the simple competitive model for the problem at hand. The question is more subtle and more interesting. How can we account for the remarkable constancy of the rate paid on bankers' balances over such a long period, including times both of downward pressure on prices and interest rates, as in the 1890s, and of upward pressures, as in the 1900s?

I shall suggest that a long-term, stable correspondent relationship between New York and country banks was desirable for both parties. The stable rate paid on bankers' balances, which was one aspect of the cor-

[10] Watkins, *Banker's Balances*, 153.

[11] John A. James, "A Note on Interest Paid on New York Bankers' Balances in the Postbellum Period," *Business History Review*, L (Summer, 1976), 198-202.

[12] *Ibid.*, 201.

respondent relationship, was in effect a risk-sharing arrangement between correspondents over time. Country banks, being averse to risk, may have desired an asset with a relatively stable rate of return for portfolio diversification, especially if local loans offered little opportunity for diversification. New York banks, on the other hand, were much better able to participate in the call market. In general, they had better information (many had credit departments) and also were larger and hence better able to diversify away risk in the call market than country banks. By attracting funds in the form of bankers' balances and then relending them in the call market, New York banks were essentially functioning as financial intermediaries. They in effect allowed country banks to eliminate the risk in interest rate fluctuations over time by offering them a stable rate.[13] At times the call rate was above the bankers' balance rate, as in the 1900s; at other times, notably at times in the 1890s, it was below it. In the latter cases, New York banks generally continued to pay the standard 2 per cent rate to maintain the stable relationship with their country correspondents. Similar considerations of risk-sharing over time have been employed in explaining long-term wage contracts.

Competition for country correspondents was active among New York banks. Around the turn of the century corespondent accounts were "openly and ostentatiously" solicited by circulars, letters, and even traveling representatives of city banks.[14] The reluctance of New York banks to lower the rate paid on correspondent deposits, even when they were losing money on them, as was certainly the case at times in the 1890s, is clear evidence that the market for correspondent balances or accounts was quite competitive among New York banks.

John A. James, *University of Virginia.*

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The Lincoln Educational Foundation, Inc., will award three fellowships of $3000 each in 1978 in the business history and/or the economic history of the United States. The Foundation states that "applicants must be citizens of the United States or Canada and planning to acquire a Ph.D. degree, with either American Economic History or American Business History as the area of major interest . . . [and] preference will be given to applicants who are preparing for careers of teaching and research." Applications for the Fellowship must be submitted not later than February 1, 1978. Inquiries and requests for application forms should be directed to Professor C. Clyde Jones, College of Business Administration, Kansas State University, Manhattan, Kansas 66502. The fellowships were provided by the late John E. Rovensky, banker and manufacturer, and are designated The John E. Rovensky Fellowships in Business and Economic History of the Lincoln Educational Foundation.

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[13] One result of such an arrangement is that the fluctuations of rates in the call market may have been exacerbated. For example, when interest rates were low, the stable rate paid on bankers' balances became relatively more attractive. As a result, the supply of bankers' balances and hence the supply of lendable funds on the call market increased, driving call rates lower than they would have been otherwise.

[14] Fritz Redlich, *The Molding of American Banking, Men and Ideas* (New York, 1968), 177.

The Regional Economic History Research Center, Eleutherian Mills-Hagley Foundation will sponsor a conference on October 21, 1977, at 2:00 p.m., on "Economic Change in the Chesapeake Colonies." The chairman will be David F. Allmendinger, University of Delaware, and the speakers and their topics will be Russell Menard, University of Minnesota, "The Economic Growth of the Chesapeake Colonies, 1607–1720"; P.M.G. Harris, Temple University, "Economic Development and Demographic Growth in the Chesapeake Area, 1630-1775"; and Lois Green Carr and Lorena S. Walsh, St. Mary's City Commission, "Changing Consumption Patterns in St. Mary's County, Maryland, 1658-1777." The commentator will be Jackson Turner Main, State University of New York, Stony Brook. For further information, write or call Glenn Porter, Director, Regional Economic History Research Center, Eleutherian Mills-Hagley Foundation, Greenville, Wilmington, Delaware 19807, telephone (302) 658-2401.

The Center also announces the appointment of William H. Mulligan to be Assistant to the Director. Mr. Mulligan, who has a B.A. from Assumption College and an M.A. from Clark University, is completing his dissertation on "The Family and Industrialization: Lynn Shoemakers during the Transition from Hand to Machine Production, 1850-1880," under the supervision of Professor Tamara Hareven at Clark University.

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The Forest History Society's thirty-first annual meeting will be held in Portland, OR, October 11-13. Headquarters for the event will be the Western Forestry Center. Principal activities will include a field trip (11th), business meeting and presidential banquet (12th), and the Forest History Symposium (13th). (Note: The Western History Association will hold its annual conference in Portland, October 12-15). For additional information contact Ronald J. Fahl, Forest History Society, P.O. Box 1581, Santa Cruz, CA 95061, (408) 426-3770.

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The Conference on Baltimore History, sponsored by The Baltimore History Research Group through the University of Baltimore and the Maryland Historical Society, will take place March 3-4, 1978. The theme will be *The People of Baltimore*, with emphasis on the history of communities, occupations, economic development, immigration, and local culture.

The Program Committee is now offering an invitation for papers. Sessions will be of two hours' duration and limited to four papers each. The Conference is partially financed by a grant from The Maryland Committee for the Humanities and Public Policy. It is hoped that a large number of papers will be presented and a wide range of topics covered.

Inquiries may be directed to Randall Beirne, Sociology Department, University of Baltimore, Baltimore, Maryland 21201.

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The fourth annual Southwest Labor Studies Conference will be held at Berkeley, California, on March 17 and 18, 1978. The Conference, under John Laslett of U.C.L.A., invites program proposals on all aspects

of labor studies, international, national, and regional, from academics and unionists. Proposals should be sent to Norman Amundson, Institute of Industrial Relations, University of California at Berkeley, Berkeley, CA 94720.

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The MacArthur Memorial, Norfolk, Virginia, will sponsor a symposium on the Occupation of Japan, on April 13-15, 1978, to be entitled "The Occupation of Japan: Economic Policy and Reform." Anyone interested in participating, especially in presenting a paper or in presiding over a session, is invited to contact: Director, MacArthur Memorial, 198 Bank Street, Norfolk, Virginia 23510, telephone (804) 441-2256.

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A three-year social science research and training program aimed at closing the knowledge gap between producers and users of statistical data was announced by two key participants in the project – the American Statistical Association (ASA) and the Bureau of the Census, U.S. Department of Commerce. The National Science Foundation (NSF) and the Census Bureau are co-funding the project. Senior social scientists and graduate students will work with Census Bureau specialists on problems encountered by a large data collection agency. Emphasis will be placed on areas of social concern that are of major interest to professionals in statistical, economic, demographic, and allied fields. For further information, write or call Henry H. Smith, U.S. Department of Commerce, Washington, D.C. 20230, (301) 763-7273.

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The National Endowment for the Humanities is inviting applications for Summer Stipends for the summer of 1978, to be awarded to college, junior college, and university faculty, and others working in the humanities. Applicants employed by colleges or universities must be nominated by the president, dean or other designated officer of their institution. Those persons whose appointments are terminating, or who are not employed by a college or university, may apply directly to the Endowment without nomination. Each stipend provides $2500 for two consecutive months of full-time study or research in the humanities. Proposals for the planning of curricula or development of teaching materials are not eligible for support. Applicants must have finished their professional training by *October 17, 1977*, the deadline for applications. For further information about the Summer Stipend program, and application forms, write to: Division of Fellowships, National Endowment for the Humanities, 806 15th Street, NW, Washington, D.C. 20506.

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The Bridgeport, Connecticut Public Library has received word from the National Historical Publications and Records Commission that its grant application for $23,431, to establish a business and labor historical records collection, has been approved by that federal agency. The library will be seeking older, inactive records that will help to preserve the accomplishments and history of business and labor in the Greater Bridge-

port area and will provide valuable tools to researchers, according to Douglas G. Reid, Library Director. The project is designed to seek out and assemble a comprehensive collection of business and labor records from firms, organizations, and individuals in the region. The materials will be processed and the resulting archival and manuscript collection will be made freely available to researchers, within any donor restrictions. The items will be part of the library's historical collections. For further information write or call David W. Palmquist, 925 Broad Street, Bridgeport, Connecticut 06603; telephone (203) 576-7417.

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The Institute for Scientific Information will publish a new index beginning in 1978, the first to provide large-scale access to the arts and humanities literature. Entitled the *Arts & Humanities Citation Index*, it will cover more than 1000 key journals from literature, history, languages, religion, philosophy, drama and theater, art, music, and other related fields. Two softbound issues, covering literature published during the periods January-April and May-August, will appear in June and October, to be followed the next May by a hardbound cumulative issue for the year. For further information, write or call Susan Deutsch, Institute for Scientific Information, 325 Chestnut Street, Philadelphia, Pa. 19106, telephone (215) 923-3300.

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The Merrimack Valley Textile Museum in North Andover, Massachusetts, has produced a 28-minute motion picture, "Hopedale: Reflections on the Past," which traces the development of this Massachusetts town from its establishment in 1842 to its emergence as a "company town" centered on the Draper Company, an important manufacturer of textile machinery. The film was produced under a grant from the National Endowment for the Humanities. For further information, write or call Victor Omelczenko or Joan Barrows, National Endowment for the Humanities, Washington, D.C. 20506, telephone (202) 382-7465.

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The Gokhale Institute of Politics and Economics, Poona 411 004 (India), announces the publication of volumes one and two of *An Annotated Bibliography on the Economic History of India (1500 A.D. to 1947 A.D.).* Volumes three and four will be available by March 1978.

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Gale Research Co., Book Tower, Detroit, Michigan 48226, announces the publication of *Directory of British Associations and Associations in Ireland, 1977-78* (Fifth Edition), price $60.

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The Forest History Society, Inc., has published *North American Forest History: A Guide to Archives and Manuscripts in the United States and Canada.* For information, write Clio Press, 2040 Alameda Padre Serra, Santa Barbara, California.

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The Editor regretfully reports that the person who undertook to review Han-sheng Chuan and Richard A. Kraus, *Mid-Ch'ing Rice Markets and Trade: An Essay in Price History*, published in May 1975 by Harvard University Press, has abandoned his commitment and has not responded to our entreaties. The Editor would be pleased to hear from any reader who would like to review this book for the record, and has access to a copy.

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We have received the following books, in addition to those reviewed:

Born, Karl Erich, *Geld und Banken im 19. und 20. Jahrhundert* (Stuttgart: Alfred Kroner, 1977), pp. 663, DM 28.50. A survey.

Leontieff, Wassily, *et al.*, eds., *The Future of the World Economy — A United Nations Study* (New York: Oxford University Press, 1977), pp. 110, $12.95 cloth, $4.95 paper.

Fischer, David Hackett, *Growing Old in America* (New York: Oxford University Press, 1977), pp. 242, $10.95.

Thomas, Dana L., *Lords of the Land* (New York, G. P. Putnam's Sons, 1977), pp. 320, $9.95.

Cipolla, Carlo M., general editor, *The Middle Ages; The Industrial Revolution, 1700-1914; The Emergence of Industrial Societies, Part One;* and *The Emergence of Industrial Societies, Part Two,* which are Volumes I, III, and IV of the Fontana Economic History of Europe (New York: Barnes & Noble, 1976). These books are clothbound editions of books originally published in paperback in 1972-73.

Bailey, Elizabeth E., ed., *Selected Economic Writings of William J. Baumol* (New York, New York University Press, 1976), pp. 655, $29.50 cloth. Articles previously published elsewhere.

Bitros, George C., ed., *Selected Economic Writings of Fritz Machlup* (New York: New York University Press, 1976), pp. 603, $29.50. Articles previously published elsewhere.

Perkins, Edwin J., *Men and Organizations: The American Economy in the Twentieth Century* (New York: G. P. Putnam's Sons, 1977), pp. 201, $7.95. Collection of previously published articles, of which five first appeared in the *Business History Review.*

Tucker, K. A., ed., *Business History: Selected Readings* (Totowa, New Jersey: Frank Cass & Co., 1977), pp. 442, $27.50. Collection of previously published articles, of which four first appeared in the *Business History Review.*

Jones, Robert B., *Tennessee at the Crossroads: The State Debt Controversy,* 1870-1883 (Knoxville, Tennessee, University of Tennessee Press, 1977), pp. 192, $10.95.

Jewell, Donald O., ed., *Women and Management: An Expanding Role* (Atlanta, Georgia State University, 1977), pp. 413, $11.95. Collection of articles previously published elsewhere.

Reischauer, Edwin O., *The Japanese* (Cambridge, Mass., Harvard University Press, 1977), pp. 443, $15. A survey.

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BOOK REVIEWS

GREAT BRITAIN AND HER WORLD 1750–1914. ESSAYS IN HONOUR OF W. O. HENDERSON. ***Edited by Barrie M. Ratcliffe. Manchester, Manchester University Press, 1975. Pp xiv + 358. £10.00.***

Reviewed by Michael Edelstein
Assistant Professor of Economics
Queens College, C.U.N.Y.

The thirteen essays in this volume are concerned with international and comparative aspects of British economic development from 1750–1914. W. O. Henderson was a pioneer in these fields for many years and his colleagues and friends have honored him well by producing a volume pursuing these important themes.

The international transmission of technology is the subject of four essays. In a preliminary inquiry into the transfer of British technology to Russia, 1760–1820, Eric Robinson finds evidence of many Russian visitors to the new British factories and of a persistent policy of the Russian government to recruit British technologists and to purchase new machinery, especially that related to armaments. J. R. Harris inquires into the transmission of technology between the premier British and French plate glass firms during the same period, and finds that despite excellent entrepreneurship at both plants, the French were unable to duplicate the "virtually unconscious craftskill" of the English workers in the construction and firing of coal furnaces. Paul Leuilliot assembles the letters of a French businessman visiting Britain, 1834–1841, and contributes an introduction.

A. E. Musson's lucidly written essay on Continental influences in the British Industrial Revolution should find a place on many reading lists. Musson finds evidence of important contributions of Continental technologies and technologists in a host of British eighteenth-century industries. Granted, Continental inventions were not significant in cotton textiles, iron, or steam engines. It is the case, however, that these three industries were too small during most of the eighteenth century to provide the sole source of those surges in the growth rate of per capita national output that are widely held to identify and date the Industrial Revolution. Thus, if we wish to argue that new technologies accounted for these surges, Musson's contribution suggests that the adoption of the best ideas from the Continent may have been as influential in the

early stages of the Industrial Revolution as the adoption of indigenous inventions.

A number of essays contribute to the field of international economic history. B. M. Ratcliffe presents an appealing argument for the importance of Emile Pereire in Napoleon's decision to sign the Anglo-French Commercial Treaty of 1860. D. A. Farnie considers whether the cotton famine was an important turning point in the history of the British cotton industry and finds that its most significant long term effect was a diminution of Lancaster's political influence. W. H. Chaloner combines numismatics and economics in an essay on the evolution of colonial monetary standards in the nineteenth century. Employing recently discovered documents, F. E. Hyde demonstrates that the Cunard Line, rather than being involved in a life-and-death struggle with American and German steamship companies in the late nineteenth century, repeatedly entered into secret international rate agreements. F. Crouzet's contribution is a survey of the literature on British trade and empire in the nineteenth century, written in 1964 and translated for this volume.

One of the most original essays in the volume is S. E. Katzenellenbogen's discussion of the role of British businessmen in German Africa, 1885–1919. Many contemporaries and later historians have hypothesized that a prime motive for the surge of European imperialism in the late nineteenth century was a desire to preserve the remaining unclaimed portions of the globe for economic development by each imperial power's nationals. Mira Wilkins has recently shown that American companies had little difficulty expanding into British colonies, with the sole exception of American oil firms in Burma. Katzenellenbogen's contribution is to examine the evidence of British participation in German Africa. In the regions where the local economy was based on trade in tropical commodities, German traders came to dominate, often with the aid of the German colonial government. However, when large amounts of capital had to be raised and the profits were likely to be long in coming, German investors could not be found and British financiers found a market for their intermediation services and for British savings. Despite prodding by the German authorities, the British financiers were unwilling to co-operate with Germans in these ventures. It would appear that the German African colonies present an example of an imperial power that attempted and failed to preserve economic opportunities for metropolitan nationals.

In the sole essay of the volume to make use of sophisticated economic models, A. J. Marrison examines the reaction of the British cotton textile industry to the new competition in Latin America, 1870–1914. Contrary to recent work by Lars Sandberg on the Indian market, Marrison finds that in the Latin American markets Britain did not react by moving production and marketing to higher categories of quality as measured by the number of counts. To have done so would have meant losing the market among low income families, the bulk of the Latin American market. Rather, as the initially low, Latin American incomes gradually rose, Britain improved quality by introducing more dyed goods at the lower counts. Thus, Aldcroft and many others to the contrary, Marrison

provides an important example of British firms effectively standing their ground against rising American and local competition.

Finally, two authors assess the roles of law and education in the growth of the domestic British economy. Surveying British partnership and trust law in the eighteenth and nineteenth centuries, B. L. Anderson finds that, if anything, incorporation for industrial and mercantile firms appears unwieldy when compared to the well-tried partnership arrangements extended via the trust form. Then, in a very tightly reasoned examination of the evolution of British financial intermediation services, he finds few strains caused by the legal framework or other structural factors. In sum, the adequacy and diffusion of sources of lendable funds from the eighteenth century onward posed few bottlenecks for the continued expansion of the British economy.

In "Investment in and Utilization of Manpower: Great Britain and her Rivals, 1870–1914," D. H. Aldcroft argues that some of Britain's technological backwardness in the 1870–1914 period is attributable to a relatively low level of educational investment. Contemporary industrial technology was increasingly complex and demanded the services of scientists, production engineers, and other qualified personnel. The British education system did not supply large numbers of these personnel, nor did British industry demand their services. By contrast, multifunctional entrepreneurs were being replaced by trained specialists in Germany and the U.S. Furthermore, while U.S. and German firms increasingly hired formally trained personnel in marketing and distribution, Britain continued to train personnel on the job. (It might be noted, however, that Marrison's essay suggests that this factor did not matter very much in Latin American markets for cotton textiles.) Finally, Aldcroft finds that British firms did not involve themselves in the period's new techniques for worker management, including new wage payment systems for encouraging higher productivity. Aldcroft does not spend much time on the possible causes for these circumstances, but the essay is a valuable survey of some important terrain.

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ENTERPRISE AND ENTREPRENEURS IN NINETEENTH- AND TWENTIETH-CENTURY FRANCE. ***Edited by Edward C. Carter II, Robert Forster, and Joseph N. Moody. Baltimore, Johns Hopkins University Press, 1976. Pp. xx + 211. $12.50.***

Reviewed by François Jequier
Professor of History
University of Lausanne, Switzerland

To summarize a collective work is difficult. Each contribution deserves to be approached individually even if they all deal, in one way or another, with "the perennial questions about which factors shape entrepreneurial decisions and what kind of people entrepreneurs are and have been in various cultures," as stressed by the editors in their introduction, where they present the gist of four studies delivered during a lecture series at Johns Hopkins University in the Spring of 1973.

Charles P. Kindleberger discusses "Technical Education and the

French Entrepreneur" by emphasizing the impact of the French technical and scientific educational system on the performance of entrepreneurs. He begins with a general description of these specialized institutions and then presents his major criticisms: admission standards are so high that entrance is limited to those who can afford highly specialized tutoring; instruction is too theoretical, mathematical, and rigid; the system is too centralized and authoritarian, turns out a product that is arrogant, and fails to provide in sufficient quantities for instructors, laboratory assistants, middle cadres, foremen, and skilled workers. To balance these faults Kindleberger trusts in the French spirit and its technical educational system. Sharing such confidence is somewhat difficult for this reviewer, who is concerned with the extraordinary gap still existing between management, its personnel, and the workingman's world.

In his brilliant essay, "Religion and Enterprise: the Case of the French Textile Industry," David Landes reevaluates earlier works, stating that "the success of the *Fabrique* would seem, then, to constitute counterevidence to both my own entrepreneurial thesis and the Weber model" (43). As a matter of fact, the Motte-Bossut dynasty is Catholic. Relying on family correspondence, studies concentrated on the most prominent entrepreneurs of the group, and numerous interviews with descendants, Landes paints a live tableau, richly evocative of this milieu, this industrial élite, of these "most prosperous and progressive textile manufacturers in the country, so wrapped up in their industry at the expense of others concerned that they became known as the Americans of France" (43).

In "Innovation and Business Strategies in Nineteenth- and Twentieth-Century France", Maurice Lévy-Leboyer uses a qualitative criterion — management procedures — and a quantitative argument — the size of enterprises. He examines four major aspects of French enterprises in order to understand how they absorbed technical progress while adapting to their environment: the personnel or labor force of the enterprises, their managers, their objectives, and the types of strategies they adopted.

From his analysis based on numerous diagrams and graphs, the dual structure of the French economy (where large enterprises co-exist with a multitude of small unities of production) emerges as the fruit of adaptation to the economic and social environment. "In short, phases of prosperity brought a great surge of firms, while depressions may not have had a commensurable effect in reducing their number" (100). "The diversification of industries and the widening market constantly promoted the rise of newcomers, who had either specific technical skills or some expert knowledge of trade. It is their presence, together with a high respect for education, that explains why established families made it a rule that the competence of their members be brought up to date in every new generation" (111).

The principal themes in Albert Boime's "Entrepreneurial Patronage in Nineteenth-Century France" concern patronage, and especially the influence of entrepreneurial mentality on French art during the nineteenth century. The author characterizes the different types of entrepreneurs in relation to their art collections, to show how their activity

affected art, and he points out how the mentality of these men connected with artistic occupations. With rare mastery, he examines the development of the collectors' tastes and the reasons for their choices. The pages dealing with industrial art, the entrepreneurs, and their effort to inject artistic creation into mass production have great originality. The study ends with provocative reflections on the "symbiotic relationship" between artists and entrepreneurs. "In fact, there are numerous points of similarity between the artist and the entrepreneur. Both groups are essentially in business for themselves, and their choice of profession entails risk-taking" (187). The two milieux are mutually opposite only in appearance, and the author leads us away from the myth "of the artist in conflict with the bourgeois community."

These four essays offer a valuable set of notes of great documentary wealth including several illustrations from Boime. This work stresses the importance that cultural factors merit in any approach to entrepreneurial history.

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TRAMWAYS AND TROLLEYS: THE RISE OF URBAN MASS TRANSPORT IN EUROPE. ***By John P. McKay. Princeton, New Jersey, Princeton University Press, 1976. Pp. x + 246. $14.50.***

Reviewed by Paul Barrett
Visiting Assistant Professor of History
University of Illinois at Chicago Circle

What the automobile has been to the twentieth century, the electric trolley was to the nineteenth. Indeed, if the author of *Tramways and Trolleys* is correct, the streetcar was an even more dramatic innovation than the private auto. Contemporaries saw in the electric streetcar a tool with the potential to transform cramped and segmented cities, making them at once more spacious and more accessible. It challenged governments to bend technological innovation and entrepreneurial zeal into the most socially useful channels without at the same time stifling the new industry. The streetcar promoted new relationships among inventors, manufacturers, and users of equipment, and demanded development of complex arrangements to deal with the trans-Atlantic borrowing of patented ideas. In a very well written 246 pages, *Tramways and Trolleys* examines the complicated matrix formed by new technology, entrepreneurial innovation, and public policy in Continental Europe and Great Britain during the thirty years before World War I. The result is an attractive book of remarkable range and compactness.

Professor McKay is an established historian of business and public policy and, in particular, of trans-Atlantic entrepreneurship. It is not surprising, therefore, that the most convincing aspect of *Tramways and Trolleys* is its treatment of the response of business and government to the potential of this remarkable new technology.

From the first, business and government operated together in the introduction of mechanical transport to European cities (which is not to say that they formed a joyful partnership). Outside Britain, entrepreneurs provided the capital and initiative, while government lent a

restraining and guiding hand, seeing that aesthetic considerations were not forgotten, and often demanding and getting special "workmen's fares" designed to promote dispersion of the cities' poorer populations. The entrepreneurs — often fronts for licensees of big electrical equipment producers — engaged in vigorous if oligopolistic competition. This competition hastened the spread of the new technology and, because the transportation giants were battling one another for franchises, often made them willing to accede to the most stringent regulatory demands of local and national governments. Low fares and guarantees of annual extensions were written into the companies' franchises, trolley wires were suspended from "decorative" poles or buried underground: in short, technology and business aspirations were successfully molded to public purposes. In Britain, where most cities opted for municipal ownership, the actors in the drama were different, but the outcome, though later, was much the same as on the Continent. And what an outcome it was! Electric mass transit in Europe, according to McKay, handed the European city dweller a genuinely benevolent and peaceful revolution.

Here is the central point of *Tramways and Trolleys*: the introduction of the electric streetcar led to a revolution in European city life quite as real as the industrial revolution itself. Transit ridership doubled in city after city as the electric tram replaced the horsecar, whose ridership had stagnated in the decade before electrification. McKay successfully rules out all other factors and shows that the new technology alone can account for this dramatic rise in the commuting habit. Electric traction not only increased the supply — and so the market — for transportation but, under the eyes of socially conscious governments, it substantially cut the cost to the rider as well. Whole new categories of urbanites found commuting — and thus better housing — within their reach.

The trolley provided Europeans with a new variety of communal experience as well. In order to reap the benefits of dispersed housing, they had to consent to sit together with crowds of strangers during their morning and evening journeys. Whether or not they resented brushing up against their varied fellow travelers, McKay believes that the new horde of commuters rode home to better, less crowded housing developed *by* the new transit lines themselves. This, says the author, was a real revolution: one that was not to be repeated. Even the automobile could not have the impact of this first application of mechanical power to urban transportation.

From the material the author presents, it is not possible to pass final judgment on the social aspects of this revolution. As McKay himself notes, ridership studies of European cities are few and of varied quality. While he shows that — especially in Manchester and Brussels — tramways advanced ahead of new housing, one needs to know the role played by private and public housing developers in order to assess the impact of the trolley in itself in what may have been a coordinated movement. This is not, in other words, a European companion to Sam Bass Warner's *Streetcar Suburbs*, nor does it pretend to be. *Tramways and Trolleys* is essentially an excellent piece of economic and public policy history — probably more suitable for adoption in a course in business history than in an urban history program.

Like any good book, *Tramways and Trolleys* raises questions that call for more studies. Among the many important peripheral points made by McKay are the pragmatic concerns that led to municipal ownership in Britain, and the negative impact that the politics attendant upon public management had on the later history of British tramways. The effective regulation practiced in France and Germany meets with McKay's approval, and he finds the late attempts of American cities to control their traction companies something of a disaster, based as they were upon "strong antipathies, antipathies which then often had the power to cripple but lacked the means to create" (95). One is left wondering how important this antipathy was in the history of American mass transit, and whether the few U.S. cities that achieved public ownership met the same fate as their British equivalents.

We need, it seems clear after reading McKay's book, a better idea of what makes successful regulation or public management of a utility possible: in short, a comparative study of European and American experiences large enough to draw upon the detailed American studies already in existence. There is also need for a good synthesis of work already available on the impact of mechanical traction in the U.S. and in Europe. The American experience was more complex: Did the cable car, whose use was widespread, play the role filled by the electric streetcar in Europe? Did the American experience have two phases, not one and, if so, is this fact a neglected part of the story of the largely unsuccessful quest by American cities for control over their traction companies? Finally, what if any relationship exists between the varying degrees of success experienced by different nations in regulating public mass transit and the general failure of anyone anywhere to cope with the private automobile?

McKay's well researched volume provides many insights and many more questions, but perhaps no insight is more important than the one with which he concludes. Under the right circumstances, public policy can do much to determine the *meaning* of a technological innovation. If — instead of bowing before every new machine as though greater short-term economic efficiency were the only measure of progress — people and their governments were to insist that innovation be justified in human terms, "progress" and improvement might more often be found together outside the dictionary. McKay's is among the best of several recent studies of urban transportation that show this to be so.

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THE AGRICULTURAL DEVELOPMENT OF TURKEY. ***By Oddvar Aresvik. New York, Praeger Publishers, 1975. Pp. xxi + 220. $16.50.***

Reviewed by Donald Quataert
Assistant Professor of History
University of Houston

This book discusses Turkish agricultural development in the decade 1961–1971 and will be of interest primarily to agronomists and development specialists concerned with increasing agricultural output. Although

there is no historical dimension, it also could be of use to economic historians of the Middle East who will find a substantial carryover of Ottoman policies into the contemporary period. The Agricultural Bank, agricultural school, model field, seed distribution (free to the Ottoman cultivator but paid for by his modern day counterpart) and the travelling agronomist programs that Oddvar Aresvik cites as central to contemporary Turkey's development schemes draw directly on the Ottoman legacy. In addition to these policy similarities, there exist numerous parallels between the obstacles encountered in agrarian reform during the nineteenth and the twentieth centuries: illiteracy, the urban origins of many agricultural school students, and the security-mindedness of the Agricultural Bank still plague improvement programs.

The author has gathered materials, primarily from English-language, published sources, which collectively offer insights into both the character and direction of Turkish agriculture. Abundant statistics indicate changes in productivity, output, fertilizer consumption, credit availability, as well as land distribution and usage. The chapters on government involvement describe the various ministries, bureaus, and programs seeking to stimulate agricultural growth. Other sections discuss the rural community (Chapter X, which probably should have been part of the Introduction) and the cultivation of Mexican wheats — the Turkish Green Revolution. The author closes with a summary of successes and shortcomings and proposes some solutions to present difficulties. He suggests, for example, "growing fodder legumes in rotation with wheat" to improve livestock quality and enhance the productivity of fallow land (196). He is at his best when discussing the Mexican wheat program, a fascinating story of innovation and interaction between the private and public sectors and of the advantages and pitfalls in the "kickoff" approach. More generally, however, the book is overly descriptive and insufficiently analytic, with a mass of partially-digested data. Too often the reader is left with the task of determining the significance of what has been related. Specifically, and central to the book, the crisis that Mr. Aresvik predicts Turkey will face in about 25 years — engendered by the "present rapid population growth" — warranted a fuller analysis than is offered in the conclusion (196). I also would have preferred more thorough discussion of the social issues related to Turkish agrarian change.

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COLONIALISM IN AFRICA, 1870–1960, VOLUME FOUR: THE ECONOMICS OF COLONIALISM. ***Edited by Peter Duignan and L. H. Gann. New York, Cambridge University Press, 1975. Pp. xvi + 719. $42.50.***

Reviewed by Andrew A. Beveridge
Assistant Professor of Sociology
Columbia University

This book is the fourth volume in a series that the editors had hoped would be "the" definitive work on Colonial Africa. Two of the previous volumes examined the history and politics of colonialism; a third with a

different editor focused on African society (read: anthropological field studies), and the fifth, which was published before the work under review, drew together much bibliographical material.

This book contains eighteen articles and a separate introduction by the editors. One should note at the outset that the history of colonialism and the history of business enterprise in sub-Saharan Africa is almost one and the same when one includes the response to that enterprise by the local population. In fact, much of southern and eastern Africa was from time to time under the rule of various chartered companies, the most famous one being the British South African Company directed by Cecil Rhodes, who if nothing else would qualify as an entrepreneur. Trading enterprises in other parts of Africa were similarly organized. So what does this book add to our understanding of business in Africa? A number of the selections are quite informative, though even some of these are available in other forms elsewhere. A number, including those by the editors and those closely associated with them seem intent on fixing (or erasing) blame, and engage in an irritating type of analysis, which one could call speculative history.

The editors begin with an essay on "The Pre-Colonial Economies of Sub-Saharan Africa." This is a very conventional account of the weakness of the economy and society of most sub-Saharan Africa, seemingly unfamiliar with the newer work using oral tradition or records of trading and other enterprises along both coasts. Colonization is seen as serving a progressive function. After shedding little new light on the old Leninist conception of colonialism as the product of capitalist dynamics, Charles Wilson's account of "The Economic Role and Mainsprings of Imperialism" buttresses the argument about the progressive nature of colonization. Problems remaining in the economies of the newly independent African countries result simply from the hostile African environment. After all, "the socio-economic evolution of a vast continent heavily burdened by man and nature cannot be easy, rapid or uninterrupted" (90).

This is followed by five papers dealing with the various colonial powers' "national styles" in economic activity. The first, by Sir Frederick Pedler, on "British Planning and Private Enterprise in Colonial Africa" provides a good account of the actual business activities carried out in British territories. For those unfamiliar with such standard material, his summary is excellent. The changing role of the government is highlighted as the colonial era unfolds. Unlike a number of the other selections in this book, Pedler is not preachy or superficially general. He does not try to answer the "big" question about the "goodness" or "badness" of colonialism, instead he simply discusses it.

The same cannot be said for the analysis of "French Economic Policy in Tropical Africa," by Virginia Thompson and Richard Adloff. While a number of statistical tables are presented, judgments are made on nearly every page. Business enterprise, as it actually existed, is sadly neglected. Jean-Philippe Peemans' discussion of "Capital Accumulation in the Congo" is much more interesting, because of its direct focus on the state-monopoly pattern. The relations between the state, the Belgian government, local capitalists, foreign capitalists, and the local colonial administration are well outlined.

Gann's brief portrait of "Economic Development in Germany's African

Empire" presents a summary from the point of view of the colonizing power. Business enterprise is again neglected, while an analysis of policies is foremost. The section on "national styles" concludes with an analysis by Richard J. Hammond of "Some Economic Aspects of Portuguese Africa in the Nineteenth and Twentieth Centuries." This piece ends with a plea for continued Portuguese rule in Angola, Mozambique, and Guineau-Bissau, and a postscript decrying recent events.

The next five articles concern "economic mainstays." Jan Hogendorn examines "Economic Initiative and African Cash Farming," and, using five cases, shows that the Africans are willing to take initiative if the potential for higher income exists. Not a surprising finding, perhaps, but one that certain schools of anthropological thought have resisted. Montague Yudelman buttresses Hogendorn's point, when he discusses "The Transfer of Agricultural Techniques." Simon Katzenellenbogen's "The Miner's Frontier, Transport and General Economic Development" outlines the development of mining, Africa's major industry. Here much secondary material is woven together in a comprehensive way. The link between mining, transport, and labor is convincingly presented. Gerald Meier's analysis of "External Trade and Internal Development" once again turns from presentation of fact to speculation about effect. Kilby's discussion of "Manufacturing in Colonial Africa" is much more interesting to those who see business as an institution. An interesting historical assessment of the growth of manufacturing and of various firms in a number of territories mostly in West Africa makes Kilby's piece one of the most relevant to readers of this journal. The impact of government policies on manufacturing also brings out a number of the dilemmas of colonial development. Should large-scale or small-scale industry be encouraged? By what means?

The final six articles deal with social implications. Colin Newbury surveys "Historical Aspects of Manpower and Migration" and finds that an interplay in agricultural and industrial development has caused the shift from labor shortage in urban areas to unemployment and underemployment both in the rural and urban areas. Peter Lloyd discusses "The Rise of New Indigenous Elites," which he equates only with the bureaucracy and politicians in West Africa and more specifically Nigeria, while ignoring businessmen. Floyd and Lillian Dotson's perceptive essay on "The Economic Role of Non-Indigenous Ethnic Minorities" is a careful portrayal of the role of non-Africans within the economies of Africa. The Dotsons' attempt to see the extent to which findings from their case study of Asians in Zambia apply elsewhere. The social world of immigrants to African societies is well portrayed, while attempts at generalization are clearly based on real information and are not overblown. Theirs is one of the best papers in this otherwise overly-labored book. P. T. Bauer's discussion of "British Colonial Africa: Economic Restrospect and Aftermath" falls once again into that region of speculative history with which this book is replete. How does one assess the costs and benefits of colonialism? Why is it done seven different times in one volume? At least Walter Elkan and Roger Van Zwanenberg discuss "How People Came to Live in Towns" in two countries, Kenya and Uganda. Though they could have easily related the growth of towns to economic changes, they chose not do so.

"Economic Achievements of the Colonizers: An Assessment" sums up

this volume from the perspective of the editors, and reinforces what is wrong with it. Gann and Duignan again make the case that colonization was not as bad as some polemicists have claimed. Historians should move beyond this sort of analysis, and indeed they recently have. Ironically, many of those who have avoided the "good-guy versus bad-guy" analysis are among those who have begun working seriously on what one might call the history of colonial business in Africa. Such people are scarcely represented in this volume, which attempts to be the definitive work on a number of subjects, but instead mostly presents tried and true, but outmoded, work from one particular point of view in an increasely irrelevant debate. At least a few excellent selections, however, depart from this characterization.

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THE OPIUM WAR, 1840–1842: BARBARIANS IN THE CELESTIAL EMPIRE IN THE EARLY PART OF THE NINETEENTH CENTURY AND THE WAR BY WHICH THEY FORCED HER GATES AJAR. ***By Peter Ward Fay. Chapel Hill, North Carolina, University of North Carolina Press, 1975. Pp. xxi + 406. $14.95.***

THE OPIUM WAR. ***By Brian Inglis. London, Hodder & Staughton, 1976. Pp. 223. $16.95.***

THE CHINESE OPIUM WARS. ***By Jack Beeching. New York, Harcourt Brace, 1976. Pp. 352. $14.95.***

Reviewed by Jacques M. Downs
Professor of History
Saint Francis College

It's either a feast or a famine. Since the publication over a decade ago of Edgar Holt's *The Opium Wars in China*, no one has produced anything specifically on the subject of the strange war that "opened" China. Now, in the space of a single year, no less than three such works have appeared, and each one is directed at a different readership — superficially anyway. Only one is written by a professional historian; the others are by journalists. Yet at least one of the newsmen is a sound scholar, and the historian has produced the most readable of the three books.

All three writers have done much reading. They appear to have immersed themselves in the subject before attempting to write. Peter Ward Fay, the historian, is avowedly attempting to give the reader a Western counterpart of Arthur Waley's classic, *The Opium War Through Chinese Eyes*. Brian Inglis is more concerned with detailing the intimate connection between policy decisions of the British East India Company and the war. Jack Beeching, with the broadest canvas of the three, admittedly does a journalist's job of telling the story of Anglo-Chinese conflict from the 1830s to about 1860, including both Opium Wars and the Taiping Rebellion.

Probably one should not compare the books, but in a review of this nature, comparisons are unavoidable. Easily the smoothest-flowing, wittiest, and most exciting narrative is Fay's. His task is a difficult one, since he must orchestrate decisions and events separated by continents, oceans,

time, and culture, yet everything must come together in the bizarre and often grisly military operations on the China coast. The tale is a dramatic one, full of the color of the time and place, and Fay fits the pieces together into an integrated and very absorbing narrative. One of his happiest devices in maintaining tension and illuminating the action is his skillful interweaving of first-hand accounts. Using evidence from witnesses of at least four nationalities (most originally from the underground Catholic mission), Fay produces a single, fascinating story-line. It is an extraordinary accomplishment.

Brian Inglis has written a book that can only be called "serious" history, though he is a journalist in the sense that he writes for both the press and for television. More of a muckraker than Fay, Inglis concentrates his attention on the role of opium and more especially of the British East India Company in bringing on the war. The Honorable Company, the obsolete governing structure of India, originally had a charter that included a monopoly of all commerce between the Capes, but most importantly it was a profit-making enterprise. Absentee private ownership of what was essentially a foreign government was a situation that could only produce evil. As I read Mr. Inglis, he believes that short of a radical revision of the government and economy of India, the Opium War was probably inevitable. His chapter titles indicate the bad-business orientation of the book: "Sales Drive, 1830–4," "Shareholders' Meeting, 1839–40," "Settlement of Accounts, 1840–2" and "Balance Sheet." He avoids the fighting altogether.

The narrow focus of his book enables Inglis to make a respectable contribution to our knowledge of the origins of Sino-British struggle. He has done his homework, but he includes no footnotes and only a very sketchy and not very useful bibliographical note. However, he has placed his references in the Library of the School of Oriental and African Studies in London — a pity that they are so inaccessible to Americans.

Beeching's book is the most journalistic in form. It also covers a much greater time span and many more events than the other two works. Consequently, Beeching's task is the most formidable, and one cannot expect him to advance the frontiers of the field. He attempts a relatively simple, straightforward account, but the result suffers the faults of the genre — inaccuracies, dated interpretations, omitted materials, imperfectly understood data, and so forth. Moreover, an enormous amount of explanation is necessary for his Western, and inexpert audience. He must, on the one hand, maintain interest, and on the other, clarify any number of complicated actions and exotic attitudes and situations. Thus, the book is uneven in quality. Yet it has some of the strengths of journalistic coverage as well. It is interesting, fast-moving, and one is not distracted by footnotes. Checking Beeching would be next to impossible. The book is useful, nonetheless, and for someone who merely wants an overview of the subject, it will serve. Beeching makes no pretense of writing more than a newsman's story.

All three works differ from early treatments in that they show a substantially greater appreciation of the sufferings of the Chinese and of the Chinese point of view generally. They also demonstrate the ethnocentric blindness of both sides of the conflict and the absolutely decisive importance of Western technology, especially in its military and naval mani-

festations. All three view the war from a British perspective (albeit an enlightened one). Fay alone uses American, French, and other non-British sources to any significant degree (none reads Chinese, I take it). Both for its broader research and for the elegance of its style, Fay's book will be preferred by historians. It has already been selected as an offering of the History Book Club. Indeed, Peter Fay's *Opium War* is a splendid demonstration that history can be scholarly and yet remain a literary art.

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LALA SHRI RAM: A STUDY IN ENTREPRENEURSHIP AND INDUSTRIAL MANAGEMENT. ***By Arun Joshi, New Delhi, Orient Longman Limited, 1975. Pp. 708. Rs. 84.00 ($10.00 approximately).***

Reviewed by Dwijendra Tripathi
Professor of Entrepreneurial History
Indian Institute of Management, Ahmedabad

Lala Shri Ram (1884–1963) made a significant contribution to the industrial development of India. He transformed the Delhi Cloth and General Mills from a weaving shed into a major industrial undertaking, and built around it an industrial empire turning out a variety of articles including several kinds of cloth, sugar and confectionery, chemicals and PVC resins, sewing machines and fans, and potteries and ceramics. Though the head of a private sector enterprise, he actively participated in the management of a wholly government-owned fertilizer company, and also invested a considerable part of his time, money, and energy in promoting a number of educational and research institutions. Born in a family of modest means, Shri Ram died after reserving a prominent place for himself in the industrial history of India.

Several years ago, Arun Joshi jointly with Khushwant Singh placed before us a record of the Lala's achievements (*Shri Ram: A Biography*, Bombay, 1968). It is not clear, and Joshi nowhere tells us, why he decided to write another book on the same subject. Perhaps his intention was to present a more analytical and detailed account than he was in a position to do in his earlier work.

The volume under review does not give much evidence of analysis on Joshi's part, however. Nobody can deny that he has considerable amount of data and facts at his disposal collected from a vast number of documents and papers relating to Shri Ram's enterprises. But analysis demands the ability to glean significant data from a whole mass of facts, and one cannot do so unless one has a meaningful theoretical framework. Joshi gives little indication of the theoretical constructs he has applied in analyzing the Lala's activities as an entrepreneur and industrial manager. In fact, Joshi does not have a framework, and thus has given us nothing but another narrative, which, in spite of its length, adds little to our understanding of the strategies adopted by Shri Ram and of the structure created by him.

This drawback notwithstanding, I would have justified Joshi's attempt if his work had added significantly to our knowledge of Shri Ram's career. On the face of it, the size of the book does indicate the inclusion of more details. For the most part, however, these details consist of

insignificant facts (such as that the father of the present President of India attended Shri Ram's ailing uncle), long discussions of unnecessary aspects, and extensive summaries of a few general works on Indian industrial history. Also, direct quotations from company records and Shri Ram's correspondence and speeches have inflated the size of the book unduly. More often than not, these quotations are of exasperating length running into two to three pages at a stretch, and letters have been reproduced in full without omitting even such obviously irrelevant phrases as "My dear" and "yours sincerely." Joshi's love of quotations is so intense that almost half of a hundred-page-long chapter is quotations. Joshi claims his work to be an exercise in history but it appears closer to a book of documents. If anything, it is an example of how history should not be written.

Joshi also claims his work to be a biography. Whatever other strengths the book may have in this respect, readability is not one of its virtues. The chapters are ill-coordinated, resulting in confusing contradictions and needless repetitions. At the same time, irrelevant and long digressions into unnecessary channels have broken the continuity of composition. What is more serious is that the book is full of numerous glaring errors of grammar, usage, syntax, and punctuation.

In sum, it is difficult for me to escape the conclusion that Joshi's earlier work gives a much better feel of Shri Ram's life and work. The work under review serves very little academic purpose indeed.

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THE JAPANESE ARE COMING: A MULTINATIONAL INTERACTION OF FIRMS AND POLITICS. ***By Yoshi Tsurumi. Cambridge, Mass., Ballinger Publishing Company, 1976. Pp. xxiii + 333. $16.50.***

JAPAN'S MULTINATIONAL ENTERPRISES. ***By M. Y. Yoshino. Cambridge, Mass., Harvard University Press, 1976. Pp. xv + 191. $12.50.***

Reviewed by Kozo Yamamura
Professor of Economics
University of Washington

As usual for things Japanese, Japan's multinational firms are growing and "maturing" much more rapidly than did their British and American counterparts. Because of this, the Japanese multinationals, as both authors demonstrate, take imaginative or necessary shortcuts in characteristic fashion, and they face and attempt to solve the special problems that they encounter as they hasten to establish themselves in a decreasingly hospitable economic and political climate and in competition (or in cooperation) with their western rivals.

Of the two books, M. Y. Yoshino's is far superior. Though his book is a short one — only about 150 pages of text — it is rich in insights and is written clearly and effectively. The first chapter, entitled "The Setting," is a background chapter that includes a discussion of the *zaibatsu* and a review of the most recent economic changes that are encouraging and forcing the Japanese to invest more of their capital and managerial

talents abroad. In chapter 2, Yoshino examines Japan's oil industry as an example of her "ventures in raw materials" and he successfully highlights the complex interactions among the Japanese government, the western "majors," oligopolistic Japanese firms, and the rapidly increasing demand for oil.

Chapter 3, on "The Spread of Manufacturing," contains lucid discussions on Japan's reasons for, and the problems faced in, increasing her investments in the developing nations and in the U.S. The general trading companies are the subject of chapter 4, and Yoshino's analyses of the roles played by these uniquely Japanese institutions in Japan's multinational activities are excellent. If this chapter is read with Yoshino's earlier discussion of these trading companies in *The Japanese Marketing System: Adaptations and Innovation* (M.I.T. Press, 1971), readers are sure to get a good initial grip toward a better understanding of this multifaceted and complex Japanese institution. Yoshino analyzes in chapter 5 the changing internal organization and ownership control of subsidiaries and joint ventures abroad. This is a good summary of many problems faced by the management of the Japanese multinationals. The last chapter is on the managerial system of the Japanese enterprises as they face the stresses and difficulties of rapid overseas expansion. This chapter, too, is a valuable addition to what is found on the subject in Yoshino's *Japan's Management System* (M.I.T. Press, 1968).

Though not a major research monograph that raises new analytical issues, this is a readable, good book by a leading student of Japanese business whose insights and reflective passages are often much more valuable than many tables and lengthy descriptions. I found the author's thoughtful assessment of the future of Japanese multinationals and the general trading companies especially valuable. In fact, I recommend this book to those economists who are forecasting the future of the Japanese economy relying exclusively on their economic analyses.

Though my overall assessment of Yoshino's book remains unchanged, I must point out that his facile and frequent use of scale economies as the major (or often exclusive) reason for the international competitive ability of many Japanese industries is rather simplistic (see, for examples, pages 68, 88, and 119). A more careful evaluation of effective uses of new technologies, policies encouraging coordinated risk-reduction, and imaginative business strategies adopted by leading firms would have made Yoshino's discussions much more persuasive and richer in content. Finally, two specific errors should not go unnoticed. Koyata Iwasaki was not the founder of the Mitsubishi Zaibatsu (4), Yataro Iwasaki was! Koyate did not graduate from Cambridge until 1906. The practice of former high-ranking bureaucrats "descending from heaven" to become executives of large firms is referred to as *amakadori* in both the text (54) and the index (183). It should be *amakudari*.

Tsurumi's book, as its subtitle "A Multinational Interaction of Firms and Politics" indicates, is ambitious in its intent. However, as becomes quickly evident, the wide net that he casts comes up with much less than the hoped-for harvest of edible fish. While the net contains interesting results of his field studies and many charming anecdotes, it also is full of jellyfish — numerous superficial observations, naive analyses and half-

truths — which can do a serious disservice especially to the non-specialist reader who may not recognize the jellyfish for what they are. The book is also poorly organized and his (and his copy editor's) English can hardly be called readable, even by my non-native standards.

The author does an effective job of describing the changing patterns and motivations of the multinational Japanese firms — their increasing desire to better control the subsidiaries abroad and the shifting patterns of competition among Japanese multinationals. His discussions, in the chapter entitled "The Ugly Japanese and Their Dilemma," of the reasons for the "visibility" of the Japanese firms abroad is his best contribution. These are lively and good discussions on the reasons why Japanese multinationals are "visible," i.e., prone to become targets of political and economic reactions in the host nations. What he presents is quite useful for anyone looking for good material with which to enliven lectures on Japanese business or multinationals in general. Tsurumi also provides useful data that he gathered himself in his field studies in many parts of Asia or from the Data Bank of the Multinational Enterprise Project of the Harvard Business School. Throughout the book, one clearly senses an author who is knowledgeable and is capable of captivating the undergraduates.

However, even some undergraduates may object to the weaknesses of analysis and inconsistencies in logic that occur throughout the book. A small number of random samples of jellyfish representing Tsurumi's often casual and unfortunate observations on economic and business motivations and practices are: (1) The postwar Japanese efforts to achieve rapid growth were a "reaffirmation of the Japanese 'instinct' based upon the past successes since the 1870's" (10); (2) "After the mid-1960's, the disappearance of the dual wage structure" occurred to "produce the migration of Japanese industrial manufactures abroad" (28); (3) "Keenly observing the U.S. market shift, Japanese manufacturers intuitively judged that sooner or later the Japanese market demand would shift to color [T.V.]" (32); (4) "The high level of business activities induced by the Vietnam War immediately pushed up the prices of plant sites in Japan" (82); (5) "In the context of the filial obligations of the subsidiary firm to its leader-manufacturer, it is the natural function of the large firm to assume leadership in the ventures new to the entire group" (87); and, (6) "As of the end of 1975, none of the largest ten trading firms seemed working on contingency plans for divesting themselves of the ill-conceived projects. Chances are that they will be caught unprepared by a sudden turn of events. Whether the rosy or the pessimistic scenario will be in store for large trading firms is, of course, up to the management courage and wisdom of each firm" (156).

The problems in (1) and (3) require no comment. On (2), Tsurumi ought to know that the dual wage structure has not yet disappeared and that increasing wages in Japan was only one of several reasons for the migration of Japanese firms. If (4) is true, the increasing price of coffee explains the current inflation. (5) is "sociological economics" at its worst. The first sentence of (6) is incorrect and in fact the opposite was true. The last sentence is empty in content and the emptiness is

all the more evident when it is contrasted to the able analyses of these firms found in Yoshino's book. Furthermore, Tsurumi's observations on the permanent employment system in Japan (218–221) are no more than half-truths, and his remarks on the "old" business leaders' "mass senility" (307) is highly impressionistic and almost libelous. Also, throughout the book Tsurumi adheres to the naive version of "Japan Inc.," undoing the contributions of many recent works warning of the danger of such a simplistic view of the interrelationships among Japanese business, the government, and the bureaucracy.

Professor Tsurumi's sociology is no better. Among his sociological observations, my favorite is: "The continued legacy of pre-World War II Japan, with such acts as the censorship of primary and secondary textbooks, produced among the Japanese a mass amnesia of what Japan did to her Asian neighbors during the years 1870–1945" (287). I wonder if Tsurumi is saying that the Ministry of Education is responsible for this amnesia and therefore for the "Ugly Japanese" in Southeast Asia!

Finally, let me cite only one example of the poor editing that mars the book throughout. "Neither the Indonesian nor the Japanese government has provided any rhetorical support and praise upon the project, although both have been liberally heaping rhetorical support and praise upon the project" (127). Yes, I double checked the quotation.

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APPOINTMENT AT ARMAGEDDON: MUCKRAKING AND PROGRESSIVISM IN THE AMERICAN TRADITION. ***By Louis Filler. Westport, Conn., Greenwood Press, 1976. Pp. xiii + 476. $15.95.***

Reviewed by John Waksmundski
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From the depression years through the 1960s, historians have tended to criticize certain aspects of the reform tradition in American life. This is particularly true regarding interpretations of Progressivism, and, to a lesser degree, muckraking. The Progressives, according to many recent studies, were spectacular failures motivated not by a desire to achieve meaningful reform but rather by a need to maintain the values and class structure of a bygone era. During the sixties, some scholars posited the thesis that real reform came about only at the behest of businessmen, or through the efforts of a rising new middle class. Moreover, the changes these groups initiated were either antidemocratic, or directly aimed at enhancing conservative big business.

In the 1970s this trend seems to be reversing and the liberal tradition is receiving a more favorable hearing. Louis Filler, the distinguished historian of muckraking, is one of the leaders in developing a more positive outlook toward our liberal reformers.

In his latest work, *Appointment at Armageddon*, Filler stresses the accomplishments of those who worked to expose evil and improve society. He suggests, moreover, that a negative view of American reform undercuts efforts to place muckraking-Progressivism in proper perspective, and to compare and relate its thrust to today's society. His

own effort represents a serious attempt to place Progressivism and muckraking within the larger American experience. This meant first that Progressivism had a past; and second that reformers often had to work within the cultural setting, dealing with human experiences, emotions, and conditions that frequently undermined their labors.

Filler follows this premise by calling attention to the many figures, some obscure, who contributed much to the ongoing reform tradition. Actually, the author's sketches of various prototypes of the muckraker-Progressive, as well as the genuine article, constitute the real strength of the volume. People deserving the label muckraker or Progressive were usually realists who went beyond moral persuasion into the realm of agitator-activist. For example, during the 1830s there was Anne Royall, the tragedy-plagued "Grandma of the Muckrakers" whose writings produced informative portrayals of conditions in poor houses, hospitals, and other institutions. And in the same decade appeared William Lyon Mackenzie, the Canadian politician-agitator who moved to America and directed his literary energies to the search for decency in politics. Filler views Mackenzie as a true pioneer in muckraking-Progressivism worthy of further study.

Filler carries this "biographical style" into his very limited effort at historical interpretation. He is critical of those historians who have denounced the reform-minded for their racism, lack of ethics, or willingness to work with the enemy (corrupt politicians and businessmen) to achieve moderate gains. In chapters on the genteel reformers and Theodore Roosevelt he offers his more tempered view. The genteel reformers, or "goo goos," are credited with emphasizing "individual worth" and social problems of an enduring quality. The author seems especially appalled by the "Roosevelt-haters" who have tended to ignore T. R.'s noble service in the Spanish American War and his inspirational effect on others seeking careers in muckraking and reform.

Filler's tendency to applaud the achievements of numerous muckraker-Progressives may be interesting reading but it is not without obvious defects. There is no basic theme here, and as a consequence the reader often feels as if he is listening to an expert espousing his moderately organized thoughts on the subject. This absence of any thematic approach will prove disappointing to historians of Progressivism who have come to expect studies placing the reform tradition in a meaningful, interpretive framework.

Moreover, economic and business historians will find little use for this work. Filler notes that much of the muckraker-Progressive agitation was over economic issues; and he presents an informed essay on Nelson O. Nelson, the businessman who, during the 1890s developed profit sharing schemes and a reduced workday for his employees. But there is no in-depth analysis of economic trends, or the structure of business institutions and their effect on society.

Despite these flaws and a few blatant typographical errors, Filler has made a valuable contribution to the literature. Students of the reform tradition will find the breadth of the study both impressive and handy as a reference tool. Furthermore, scholars in the field will find the

bibliographical note a useful source for identifying related areas in need of further study.

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COLONEL GREENE AND THE COPPER SKYROCKET. ***By C. L. Sonnichsen. Tucson, The University of Arizona Press, 1976. Pp. x + 325. $4.95.***

BLACK POWDER AND HAND STEEL: MINERS AND MACHINES ON THE OLD WESTERN FRONTIER. ***By Otis E. Young, Jr. Norman, The University of Oklahoma Press, 1976. Pp. xii + 196. $9.95.***

Reviewed by Ronald C. Brown
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The Trans-Mississippi mining industry has received increased scholarly attention in the last two decades. Russell Elliott, William Greever, W. Turrentine Jackson, Richard Lingenfelter, Rodman Paul, Duane Smith, and Clark Spence have re-examined its rushes, investors, labor organizations, mining camps, applied technology, and even engineers. Both C. L. Sonnichsen and Otis E. Young, Jr., have contributed to this growing body of literature and here offer additional monographs. Their works follow persistent trends in Western historical writing — namely, economic biography and descriptive technical and social history.

Sonnichsen's *Colonel Greene and the Copper Skyrocket* is a biography of William Cornell Greene, which follows Greene's career as entrepeneur, rancher, and promoter. Attempting "to set the record straight and tell the facts about what happened to Will Greene before, during, and after his remarkable ride on the Copper Skyrocket" (x), C. L. Sonnichsen focuses upon Greene's business enterprises and activities, his genial and persuasive personality, and his role in the Cananea, Sonora, Mexico, labor strike of 1906, subsequently a *cause célèbre* for the revolutionists of 1910. Avowedly a sympathetic revisionist, he sees Greene in the familiar stereotype of the "frontiersman to the end — a man looking for new country and new challenges, a lone fighter pitting his strength against nature and hostile human beings" (268). Thus, "Col." Greene emerges as an honest, hard-working and independent visionary, flawed only by his own unbridled optimism.

Sonnichsen devotes the vast majority of the book to describing Greene's ventures in Cananea, southern Arizona and southwestern Texas, and, in the process, establishes the socio-economic unity of this region during the early twentieth century. As president and principal promoter of the Cananea Consolidated Copper Company (4 C's), Greene divided his time between New York City, with its outdoor securities market, and his companies in Mexico and the Southwest. Operating continuously at the brink of financial disaster, he possessed an excellent copper mine and a passion for expansion and diversification, but lacked adequate capital. Involved periodically with William Rockefeller, Marcus Daly, H. H. Rogers, Thomas W. Larson, Henry Huntington, John Gates, Edwin Hawley, Thomas F. Cole and John D. Ryan, "he found that

unceasing vigilance was the price of mere survival" (91). Combining strategic financial support with provocative prospecti, repeated issues of new stock, premature dividends, and careful juggling of receipts and capital to pay expenses, he managed to press development while staving off efforts at reorganization and consolidation.

On June 1, 1906, the Mexican laborers at Cananea struck the 4 C's demanding a five-peso daily wage and an eight-hour workday. Complicated by the ideological issues of Mexican nationalism and smoldering resentment of the Díaz regime, the strike produced shock waves that threatened Greene's empire. It disrupted his carefully balanced credit system; fostered uncertainty about Mexican investments and, especially, his companies; and precipitated indirectly the formation of a new holding company, Greene Cananea Copper Company, over which Greene had little control. On February 15, 1907, the forces of Cole and Ryan stripped Greene of all responsibility, and he resigned.

Based solidly upon existing manuscripts, newspapers, periodicals, and extensive interviews with, and letters from, Greene's contemporaries, this study adds to our knowledge of W. C. Green and his affairs, presenting clear, balanced portraits of Greene, Albert Fall, Thomas Larson and others who figured in Greene's meteoric career. The book is less successful in its presentation of Greene's complex financial maneuverings. Whether this stems from Sonnichsen's basic sympathy for Greene and his problems and plans, or results from inadequate documentary evidence is unclear. Inclined to exonerate Greene, he dismisses charges that Greene was a "financial ignoramus" by arguing "that he had to know what he was doing most of the time in order to survive as long as he did" (104, 105). Similarly, since Greene had worked as a miner in Tiger, Arizona, he labels him a "practical mining man" (67).

While Sonnichsen seeks to correct the mistaken interpretations of other historians, three separate references to Marvin Bernstein's work were not in my copy of *The Mexican Mining Industry, 1890–1950* (pp. 212–13, 261, 295n). Sonnichsen has provided a revisionist view of Greene and his "master plan" for northern Mexico; this book refutes certain myths and forces a partial reassessment of this intriguing Westerner.

Otis E. Young, Jr., shifts the focus from the entrepeneur to the mines and miners. Described as a "companion volume" to his earlier *Western Mining, Black Powder and Hand Steel* is actually Young's third effort to discuss the mechanics and technology of mining, and to recapture the vanished world of the laboring hard-rock miners. The book is loosely organized around mining in the American West, but includes vignettes on the histories of blasting powder, hoisting machinery from ladders to steam-powered cages, and Cornish pumps. Three of his eight chapters discuss the problems of prospecting, with consideration given both silver and gold seekers, as well as an entire chapter on their faithful burros — "desert canaries." Specifically, he retells the discovery tales of Mason, Regan, Long, and Copeland of Arizona's Silver King Mine; Tabor, Rische, Hock, Stevens, and Wood of Leadville; Schieffelin of Tombstone; Wickenburg of Arizona's Vulture Mine; Womack and Strat-

ton of Cripple Creek; Butler of Tonopah; Stimler and Marsh of Nevada's Grandpa District; and Myers and Hart of Goldfield.

Apparently offered in homage of Western miners, who "were highly skilled artisans, proud of their admirable profession and much given to talking about it" (vii), *Black Powder* lacks a central theme or thesis. Its purpose is to provide additional information about the men and machines that shaped the mining West. Young writes clearly about the miners' attire, implements, and working day. His description of the operations of Cornish pumps and their adaptation to the peculiar needs of the American West will interest anyone concerned with technology, mining, or the frontier experience. However, Young's familiarity with the technical aspects of machinery and geology leads him into complex definitions that will confound those not interested in the finer points of technology and mining.

The book is based primarily upon printed primary and secondary sources, although Young lists several interviews, and notes that "for otherwise undocumented quotations and anecdotes I am indebted to my associate Robert Lenon, P.E., of Patagonia, Arizona" (175, n. 20). However, even in his coverage of the secondary literature, Young omits several important works — *Rocky Mountain Mining Camps* and *Horace Tabor*, written by Duane A. Smith, and "Industrial Revolution in the West: Hard-Rock Miners and the New Technology," by Mark Wyman. Certainly a close reading of Smith's biography would have prevented yet another rendition of the alleged significance of a bottle of whisky in the discovery of the Little Pittsburgh Mine (73–74).

Even more distressing is the enormous amount of repetition from Young's earlier *Western Mining*. Approximately 50 per cent of the index listings (109/210) found in *Black Powder* are also found in *Western Mining*. Many topics discussed in *Western Mining* reappear in *Black Powder*, often with similar or identical phrasing. Young's book is generally clearly written and often witty, but a sometimes strident attempt to write colorful and distinctive prose produces occasional confusion and detracts from his conclusions. On balance, Young's monograph provides an excellent discussion of certain technical aspects of mining. It contains excellent illustrations, four pages of color plates, and a very selective map of mining camps of the West.

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FREEDMEN, PHILANTHROPY, AND FRAUD: A HISTORY OF THE FREEDMAN'S SAVINGS BANK. ***By Carl R. Osthaus. Urbana, University of Illinois Press, 1976. Pp. 257. $10.95.***

Reviewed by Alan L. Olmstead
Associate Professor of Economics
University of California, Davis

Professor Carl R. Osthaus recounts one of the tragic episodes in the annals of American business history. As the Civil War drew to an end, a group of northern philanthropists, possessed of a zeal reminiscent of that underlying the founding of the first American mutual savings banks some 45 years earlier, set out to found savings banks for ex-slaves. In

1865 these individuals received a federal charter incorporating the Freedman's Savings and Trust Company. The company differed from other mutual savings banks in two important respects. First, it held a federal, as opposed to a state, charter. This distinction provided the basis for establishing branches throughout the South as well as in some of the larger urban centers of the North. By the end of 1865, there were already ten branches in operation, and at the peak of the bank's business in 1873 the bank had thirty-four branches, all directed from a central office in Washington, D.C. Second, its trustees (all whites at the outset) were drawn from five northern states and did not include a single local citizen. (The intent of Congress was that the bank would be located in the nation's capital.) This guaranteed that the trustees as a group would have little knowledge of, and much less control over the formulation of, day-to-day policy.

From the start, the bank's affairs were marred by shenanigans and incompetence that would have the markings of a grade B slapstick movie, were it not for the heartbreaking ending. The specific bill signed by President Johnson had not been passed by both Houses of Congress. Eminent trustees resigned, apparently because they had not been asked to serve and had not agreed to do so. (In one case the resignation was rejected!) Accountants and cashiers knew little or nothing about banking or bookkeeping. The bank's founder and one of its presidents, favorably described as a financial nincompoop, founded new branches with the abandon with which a religious zealot might found new missions on the eve of the second coming. The bank was in the red from the start and too impoverished to hire competent accountants, yet its management spent lavishly on buildings and furnishings.

The situation worsened in 1867 when a couple of "financial heavies" were elected as trustees. One, none other than Henry Cooke (Jay's brother), gained the reins of the investment committee (money from all branches was sent to Washington) and within a few years he and a few cronies began to fleece the operation. At the same time that the big thieves were looting the central office a host of petty crooks and embezzlers appeared at several branches. In 1873 the panic and subsequent investigations exposed the fiasco and many important white trustees deserted leaving it to blacks to administer the *coup de grâce.* This unsavory task fell on the shoulders of Frederick Douglass, who assumed the presidency of the bank in March of 1874. The bank, in a state of total disarray, closed its doors permanently on July 2, 1874, striking a devastating financial and psychological blow to the black community. After considerable delay and investigation, its depositors received up to 62 per cent of their principal in five payments staggered between 1875 and 1883.

My generally favorable impression of this book is dampened somewhat by Osthaus' failure to give adequate attention to Walther L. Fleming's 1927 book on the same subject. The two books have similar skeletons and numerous long passages cover nearly identical ground, although Osthaus laces his account with more detail drawn from personal and company papers, and he provides considerably more information on the personalities involved and the social milieu of the day.

Without making an item by item comparison, my reading is that Osthaus' major interpretations and conclusions are also generally consistent with Fleming's. Given the similarity between the two books, it would have been helpful if, at the outset and as needed throughout the book, Osthaus had explicitly contrasted his and Fleming's interpretations, but such a juxtaposition appears only once on page 163, which incidently is the first reference to Fleming. A more explicit comparison of Fleming might have helped clear up a few factual errors. For example, a check of the documents cited by Osthaus shows that his assertion (5) that the Senate's original bill, which contained no provision limiting the corporation to Washington, D.C., became law is incorrect. Fleming correctly notes that the law contained such a limiting provision (26–27). These criticisms notwithstanding, I am confident that most readers of this journal will find Osthaus' work both enjoyable and informative.

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THE BUSINESS CAREER OF MOSES TAYLOR: MERCHANT, FINANCE CAPITALIST, AND INDUSTRIALIST. ***By Daniel Hodas. New York, New York University Press, 1976. Pp. xvi + 356. $17.50***

Reviewed by Arthur M. Johnson
A. & A. Bird Professor of History
University of Maine, Orono

Business biography is always interesting because it personalizes decision-making; it also may shed light on the developments that have shaped our nation. The Carnegie, Rockefeller, and Morgan stories, for example, have long been staples of American business history. In this book Daniel Hodas introduces us to one of their contemporaries, Moses Taylor, who was a lesser but nonetheless important business figure of the nineteenth century.

Taylor's business career spanned the key decades from the 1830s to the 1880s. In that half century he passed successively through the roles of merchant, financial, and industrial capitalist. Readers familiar with the period and the business careers of such figures as John M. Forbes of Boston and Erastus Corning of Albany will find the similarities with Taylor's business practices and investment strategies to be striking.

Taylor, whose operations were conducted from New York City, helped to confirm that city's preeminence as the financial center of the country. Although Taylor's obituaries hailed him as a self-made man, he was not handicapped by the fact that his father had been an agent of John Jacob Astor. Starting in the Cuban sugar trade, he gradually diversified his business interests and investments. In 1837 he began an association with the City Bank which led to its presidency in 1856, a post he held until he died. He held almost comparable power in the Farmers' Loan and Trust Company, of which he first became a director in 1843.

In 1842 Taylor withdrew $200,000 from his business and began an investment program that carried him into a variety of strategic investments in American growth over the next four decades. One of his early interests was New York City real estate and local gas companies, where

he first used his influence to "rationalize" competition. By the mid-1850s he was deeply involved with Pennsylvania anthracite coal lands and the railroads that served them, notably the Delaware, Lackawanna and Western. Taylor's typical procedure was to take a well-secured initial interest and then expand it, exercising increasing control to protect his investment. His position was typically further solidified by supplementary and complementary investments, each benefiting the others as much as possible.

Starting with the DL & W, Taylor envisioned expansion from a local coal-carrying road to a general freight line between New York City and the Great Lakes. In this role he became closely associated with James F. Joy, whom Boston developmental investors accused of betraying their confidence. In Hodas's interpretation, the reverse was true.

Taylor was a major source of capital for a variety of undertakings, ranging from steamboats and the Atlantic Cable to the Michigan Central Railroad. He was eventually forced to give up his dream for the DL & W and surrendered his system to Cornelius Vanderbilt. After the Civil War, in which he played an important financing role, his railroad interests shifted to the South. He was also associated with industrial ventures, one of the most important involving the nation's largest zinc producer. Reflecting the close ties between Taylor's interests, its output of spiegeleisen was used by Taylor's iron and steel works, which in turn supplied rails to roads in which he held an interest.

Unquestionably Taylor was a very able and successful businessman. Whether he was the "super-entrepreneur" of Werner Sombart's terminology, as the author suggests, seems more questionable. Like most of his contemporaries, Taylor acted to further his own interests, saw no conflict in serving them on both sides of a business deal, and applied flexible standards of accountability depending on who was involved in a given situation. Daniel Hodas faithfully records these characteristics and treats them sympathetically, perhaps too much so. Basically, however, Taylor emerges as a conservative, methodical, and responsible capitalist, whose judgment of both men and situations plus his strategic position in the New York financial center brought him power and profit. At the same time he contributed to the transformation of the American economy and centralization of financial control with associated managerial forms.

The author has rescued Moses Taylor from an undeserved obscurity. Business historians and those interested in the process by which business decisions moved from the personal to the institutional will find this book both interesting and informative.

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THE MEGACORP AND OLIGOPOLY: MICRO FOUNDATIONS OF MACRO DYNAMICS. ***By Alfred S. Eichner. New York, Cambridge University Press, 1976. Pp. xiii + 365. $24.95.***

Reviewed by Jesse W. Markham
Charles Wilson Professor of
Business Administration
Harvard University

In this very ambitious treatise Alfred Eichner takes as his point of departure two propositions on which economists are in general agreement:

(1) the microeconomic models of oligopoly are much too simplistic to provide reliable explanatory hypotheses for the behavior of modern industrial markets; and (2) the logical interconnections between microeconomic and macroeconomic theory have yet to be satisfactorily developed. Since a large proportion of the microeconomy may be broadly defined as oligopolistic in character (Eichner cites an authoritative source calculating it to be two-thirds for the United States), these deficiencies constitute enormous gaps in our understanding of the economy's operative mechanics and, in turn, explain why our policies for maintaining economic growth, full employment, and price stability have been decidedly less than a resounding success.

Eichner rejects contemporary models of oligopoly on two grounds. First, since oligopolists typically have plants with designed capacity in excess of their current rate of output, and since the industry demand schedule at the prevailing price that clears this output rate is usually inelastic, price is indeterminate – it is impossible for such firms to equate marginal cost and marginal revenue as required in conventional profits maximization models. Second, since the demand schedule confronting any single oligopolist depends on the price and output of its rivals, this interdependency introduces an additional source of indeterminancy. Eichner therefore concludes that the Chamberlin-Robinson model and its derivatives, based as they are on equating marginal revenue with marginal costs, are irrelevant to the oligopolistic sector of the American economy.

To remedy these deficiencies Eichner reformulates the price equation for the megacorp (shorthand for the modern large corporation), relating price to intertemporal revenue flows instead of to shortrun profits. The key to this relationship is the "corporate levy," which he defines as the amount of funds available to the megacorp from internal sources to finance investment expenditures. The corporate levy includes the flow of revenues that accrue to the corporate organization and that its managers manage – retained earnings, depreciation allowances, and outlays on advertising and research and development. It explicitly excludes the portion of profits paid out to stockholders as dividends on the grounds that to the megacorp such payments are scarcely distinguishable from interest or debt. The relevant price equation thus becomes (57):

$$P = AVC + \frac{FC + CL}{SOR.\ ERC}$$

where P = absolute price; AVC = Average variable costs; FC = Fixed charges; CL = Corporate levy; SOR = Standard operating ratio; and ERC = Engineer-rated capacity.

This price equation, Eichner argues, explains much contemporary price behavior that has been viewed as anomalous to conventional profits–maximizing models. For example, we have been led to expect price reductions to accompany a decline in demand, and our monetary and fiscal policies have been erected on this assumption. We need no longer be surprised that such anti–inflationary policies do not accomplish the expected results. The megacorp, operating with a long-term time horizon, may not alter its corporate levy under short-run changes in demand. Hence, in Eichner's equation, if the magnitude of all other variables

remains the same, a decline in demand *increases* the price component $\frac{FC + CL}{SOR.\ ERC}$. Since the AVC component is assumed to be constant over wide ranges of output, anti–inflationary measures in the form of reduced aggregate demand throughout the economy may well have the perverse effects with which we have become all too familiar – price levels continue to rise when we expect them to decline.

Again, under conventional models we expect economic growth to reward consumers with the decline in prices associated with scale economies and technological change. But in Eichner's model corporate growth requires larger corporate levies to provide the required internally generated revenues. This, when combined with the fuller exercise of monopoly power in the hands of large labor unions in periods of economic growth, may well explain the inflation that has bedeviled the Western world for more than a quarter-century.

The policy implications of this provocative, discrete break with the Marshallian and Keynesian economics that have provided the foundations for modern economic science are immense. The important economic objectives of full employment, stable prices and optimum growth depend not on Keynesian policy prescriptions superimposed on supply-demand determined prices in a milieu of representative competitive firms, but on the decisions of megacorp managers and large labor unions. Since the corporate levy is a function of economic growth, it can be governed by a public policy of optimum growth. There would remain the problem of how to resolve the conflict between management and labor, and this requires a national wage policy. Eichner concludes, "what this amounts to is a form of indicative planning . . . ; with broad agreement reached as to what the secular growth rate should be, the determination of the national incremental wage pattern would no longer need to involve simply a power struggle between megacorps and trade unions" (278).

To return to Eichner's point of departure, it is clear that he has been more successful in integrating microeconomic and macroeconomic theory than in providing a more operational theory of oligopolistic behavior. He passes rather lightly over the question of rivalrous interdependence by suggesting that the largest or most efficient megacorp in a given industry will set the price consistent with its *ex ante* corporate levy, which in effect presents all its rivals with an offer they can't refuse. But this ignores the diverse patterns of oligopoly one observes in the numerous studies of oligopolistic industries. His model, distinguishable from conventional price-leadership models largely in the substitution of the corporate levy for joint-profits maximization, does not quite square with either the trend toward greater debt financing by the stable capital intensive industries such as steel, or the unstable intensive price competition in mini-calculators that reduced average price from $250 to $19.95 in the course of five years. Others have recently sought to explain diverse patterns of behavior in terms of the asymmetry among rivals, and have found Eichner's megacorps much less given to peaceful tacit agreements on the size of the corporate levy than his model assumes.

Caveats such as this aside, Eichner has produced an extraordinarily thoughtful and skillfully executed theoretical treatise on modern corporate society. Readers will inevitably date many of his empirical observations

and policy prescriptions back to Galbraith's *The New Industrial State*, but this makes the treatise no less original. The theoretical models incorporate much of what is known about contemporary corporate behavior and provide others with much on which to build. Economic theorists, students of public policy and economic historians will find the book of special interest. Those not trained in economics will find the technical analysis difficult but not impossible to digest.

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DID MONETARY FORCES CAUSE THE GREAT DEPRESSION?

By Peter Temin. New York, W. W. Norton & Company, 1976. Pp. xiii + 201. \$8.95, cloth; \$3.95, paper.

Reviewed by George D. Green
Associate Professor of History
University of Minnesota

For many years the prevailing interpretations of the causes of the 1930s depression relied on simple Keynesian models emphasizing the evils of balanced budgets and underconsumption, plus Galbraithian complaints about bad institutional structures. Since the appearance in 1963 of Milton Friedman and Anna Schwartz, *A Monetary History of the United States, 1867–1960*, a growing number of historians have simply added failure of monetary policy alongside failure of fiscal policy in their list of causes. They have generally not accepted Friedman's claim that the roughly 25 per cent reduction of the money supply (1929–1933) was the single primary independent variable causing the depression, but neither have they weighed its importance relative to other factors.

Peter Temin has written an important monograph in which he not only challenges Friedman's "money hypothesis," but also sharply criticizes many features of the conventional Keynesian "spending hypothesis." He reviews, translates, and evaluates several of the recent econometric simulation studies of the depression, but finds no satisfying answers there either. He offers a few hints of the causes he believes were most important, but his main conclusion is agnostic: that we have not and perhaps cannot develop complex models and sufficient data to discriminate decisively among the many competing explanatory hypotheses. Temin has tried hard to make his argument "accessible to readers with only a knowledge of undergraduate economics" (xii). Historians will find this book more difficult than his previous Norton essay on *The Jacksonian Economy*, but the issues here are intrinsically more complex and technical.

Temin convincingly exposes the limitations of Friedman's "money hypothesis." The money stock was not an independent variable whose varying supply dictated the level of GNP. Changes in the quantity of money were more the result of declining demand for money (due to depressed income) than of restricted supply. The banking crisis of 1930 was more a result than a cause of declining national income. There is no evidence (in short-term interest rates, credit rationing, or flows of funds) of effective monetary restraint between October 1929 and the fall of 1931. Interest rates did rise on some corporate and government bonds, but this reflected rising risk premiums rather than a general "scramble for liquidity," as Friedman/Schwartz believed.

While rejecting Friedman's "money hypothesis," Temin definitely does not revert to the primitive Keynesian view that "money did not matter." He affirms that Federal Reserve monetary restraint in 1928–1929 and after the European monetary crisis in fall 1931 did depress national income. He also effectively criticizes nearly all the Keynesian econometric models for their inadequate specifications of the financial sector and potential channels of monetary influence (whether Fed policy initiated or not).

Temin's examination of the Keynesian "spending hypothesis" for non-monetary causes of the severe decline from October 1929 to fall 1931 is less searching and less conclusive. He shows that the stock market crash had only a modest impact on consumer spending (via wealth effects) and that expectations did not turn sour until the fall of 1930 (but before the banking crisis). But he detects an unexplained $3 billion reduction in consumer spending during that year. The old liberal "maldistribution" theory is dismissed in a single paragraph. Only three pages are devoted to the sharp drop in American exports despite the fact that Temin believes they might explain 25–30 per cent of the total drop in GNP. He proves with great care that the European monetary crisis was largely independent of American causes, but devotes no comparable effort to testing the interdependence of European and American income and trade flows. The drastic 35 per cent drop (1929–1930) in investment spending (vs. 5 per cent in consumption) is deemphasized because it is not "unusual" when compared to the 1920–1921 and 1937–1938 recessions. The drop in housing investment is rightly shown to be substantially endogenous, related to falling income (which delays new family formations). Some readers will undoubtedly wish to emphasize the influence of declining export and investment spending more than Temin has, and to explore their causation more thoroughly. It is a slight shock to see the failure of investment spending after fall 1930 explained just as Andrew Mellon would have wished: "businessmen lost the confidence that underlies private investment" (172). Yet Temin has done more than other writers to consider and describe changing expectations, cleverly measuring them through changing bond ratings of the risk of business failures, and showing the serious problems they pose for econometric model-builders because unobservable variables (such as expectations) and unconstrained lag structures can so easily explain too much. His discussion of the rising subjective real interest rate during the 1930–1932 price deflation is brilliant; I accept his doubts that consumers made such subtle calculations, but I suspect that the real costs of deflation very effectively discouraged business investment. Here is one way to pin down that "loss of confidence."

I think Temin is right that no giant macro-econometric model can ever magically identify the causes of the depression. But his own sensitive blend of such econometric findings with other evidence and a probing analysis marks a potentially more fruitful path.

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ADVOCACY AND OBJECTIVITY: A CRISIS IN THE PROFESSIONALIZATION OF AMERICAN SOCIAL SCIENCE, 1865–1905. *By Mary O. Furner. Lexington, University of Kentucky Press, 1975. Pp. xv + 357. $17.50.*

Reviewed by Frank Annunziata
Associate Professor of History
Eisenhower College

Perhaps the most significant factor dissipating the dominance of laissez-faire social thought in the late nineteenth century was the organization and ideological character of the emerging social science intellectual disciplines. During this period American social reform modified its preoccupation with individualistic moral exhortation and self-discipline and revealed an enthusiasm for meliorating the vagaries and vicissitudes of a new industrial society by using government as a regulator, an enforcer, and planner. Indeed, for Brooks Adams the concept of civilization came to mean the centralization achieved by scientific, educational, and administrative efficiency.

The new intellectual Progressivism was primarily and substantively rooted in the work accomplished in economics, sociology, law, and political science. And its institutional dimension – the welfare state – reflected the absorption of nineteenth-century reform traditions (moral rectitude and stewardship) and their fusion with science and engineering models and industrial and military organizational models for social reconstruction. A managerial intellectual cadre, an elite of experts, would not disrupt property relations or imperil fundamental structures but society would be given reform direction by academics and their progeny – public administrators.

Mary Furner's book examines this vitally important question about the relationship of academics to Gilded Age social reform by considering the process of "professionalization," the ways in which academic disciplines handled divisive ideological problems and the precise nature of the influence wielded by the social sciences from 1865 to 1905. It is, *au fond*, concerned with the febrile tension between "advocacy" and "objectivity" that characterized the early efforts to establish new academic disciplines. It is an intelligent, rigorously analytical and gracefully written monograph. Furner's immersion in the numerous manuscript collections of the era's leading social scientists and her adept incorporation of previously published scholarship into the book give it an authentically authoritative and judicious tone.

She begins with a consideration of the American Social Science Association's fears about a permanent working class and its assumptions that social pathology was curable by measures that promoted physical and moral health and that basic social rearrangements were unnecessary. She then traces the conflict between Simon Newcomb and Richard Ely and the subtle and intricate politics that affected the organization of the American Economics Association. All of the major intellectual figures are studied and cogent insights into the nature of graduate education, university administration, and academic freedom are replete. She is at her best, however, in demonstrating how E. R. A. Seligman and John Bates Clark at Columbia, Arthur Hadley and Henry Farnam at Yale,

Frank Taussig at Harvard, Albion Small at Chicago and Henry Carter Adams at Michigan led the "quiet scholarly advance of the early 1890s to take over leadership of the (economics) profession" (159). They were the new interest group "within economics which defined itself primarily in neither ideological nor methodological, but rather in careerist terms" (160).

While the book contains sobering reminders of how professors were harassed and dismissed for their opinions and illuminates many issues in American intellectual, administrative, and educational history, readers will be more attracted by the way she elucidates how "the tension between advocacy and objectivity which characterized the professionalization process altered the mission of social science. Only rarely did professional social scientists do what no one else was better qualified to do: bring expert skill and knowledge to bear on cosmic questions pertaining to the society as a whole. Instead studies and findings tended to be internal, recommendations hedged with qualifiers, analyses couched in jargon that was unintelligible to the average citizen. A fundamental conservatism developed in the academic social science professionals, though conformity was often to a liberal rather than a conservative consensus. The academic professionals, having retreated to the security of technical expertise, left to journalists and politicians the original mission – the comprehensive assessment of industrial society – that had fostered the professionalization of social science" (324).

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THE FARM CREDIT SYSTEM: A HISTORY OF FINANCIAL SELF-HELP. ***By W. Gifford Hoag. Danville, Illinois, The Interstate Printers & Publishers, Inc., 1976. Pp. xiv + 292. $6.95.***

Reviewed by Martin R. Blyn
Professor of Economics
and Business Administration
California State College, Dominguez Hills

The author's primary intent is to trace the history and accomplishments of the cooperatively owned Farm Credit System, since its inception in 1916. Actually, the book is both something more and something less than a history; it deals extensively with the present day workings of the System as well as providing a testimonial to its achievements. Unfortunately, W. Gifford Hoag, who has a vast, and first-hand, knowledge of the System is sometimes given more to eulogizing the System than to writing analytical history. This is not to say that Mr. Hoag is never critical. However, the book does lack "depth." Cliometricians and other "new" economic historians will find little of interest. On the other hand, the book was not written for them, but rather to provide a readable account of the forces leading to the creation of the several component parts of the Farm Credit System, its operations, and its successes in serving farmers. The author is at his best in describing the development and operations of the System. Less satisfactory is his account of its accomplishments, for often there is little in the way of supportive data or analysis. This is somewhat unfortunate since in a very real sense the work is dedicated to these accomplishments. Nevertheless, the book

should be required reading for students of American agriculture, of recent agricultural history, and of the history of financial institutions. It should be of special interest to students of the cooperative movement.

After a very brief introduction to "What is the Farm Credit System?" the book is divided into five parts. The first provides a short discussion of American agriculture with emphasis on the relationship of credit to capital formation and productivity. The second part deals with innovations of the Farm Credit System designed to benefit farmers. The first of these involved the idea of the Government supplying the original equity capital for the System and providing mechanisms for the users (i.e., farmers) to gradually replace it and to assume cooperative ownership. In a second chapter, Mr. Hoag describes how the Farm Credit System led in the development of the "agency market" for securities. Also examined are a number of other pioneering efforts including the use of amortized mortgage loans, the establishment of lines of credit, and the early use of variable interest rate mortgage loans.

A third section covers a variety of topics that loosely relate to the operations and policies of the System. Topics range from a chapter paying homage to key figures in the life of the System to a two page discussion of the System's electronic data processing operations. As one might expect, some of the material in this section is of limited interest; however, there is much that is interesting, including a brief analysis of the basis for property appraisals, and the shift away from reliance on collaterial in the granting of loans. The fourth section reviews the System's relationships with other institutions. In the last portion of the book, Mr. Hoag examines the historical development of the Farm Credit System. This, and the section dealing with System innovations, will doubtless be of greatest interest to readers of this *Review*.

While the book is well-written, it is poorly organized. The two page introduction is inadequate; one can read quite far into the text without really understanding the functions or mission of certain segments of the System. The last section, covering the historical development of the Farm Credit System, might well have followed the introduction; the several chapters of each of the five sections do not always hang together very well; there is much repetition; and the book's flow is sometimes marred by the inclusion of trivia. But all this aside, Mr. Hoag has performed a valuable service in describing an important, though little known, component of our financial system. And an important part it is, for the Farm Credit System provides farmers and ranchers with more than one-third of their financing. How little known the System is, is perhaps well illustrated by the fact that this reviewer had only a vague awareness of the Farm Credit System prior to reading this book, despite being the coauthor of a history of financial intermediaries.

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CONOCO: THE FIRST ONE HUNDRED YEARS. ***By Continental Oil Company. New York, Dell Publishing Co., 1975. Pp. 238. No price given.***

REGULATING COMPETITION IN OIL: GOVERNMENT INTERVENTION IN THE U.S. REFINING INDUSTRY, 1948–1975. ***By E. Anthony Copp. College Station, Texas A & M University Press, 1976. Pp. xxiv + 280. $14.50.***

Reviewed by Gerald D. Nash
Profesor of History
University of New Mexico

As the oil industry in the United States matured in the course of the twentieth century, many of its leaders became increasingly conscious of its history. Thus after World War II many major integrated petroleum companies as well as the American Petroleum Institute encouraged or even sponsored company histories. The character of these books varied considerably. Some were slick and superficial, produced by public relations departments of large corporations and designed to cultivate a favorable public image. Others were more serious, written by professional historians such as Ralph and Muriel Hidy, Henrietta Larson, Kenneth Wiggins Porter, and others. The volume on Conoco clearly belongs to the coffee-table variety. Written by an anonymous staff, copiously illustrated, its title page even utilizes the slogan emphasized by Conoco in its rather supine television commercials: "Building on the Past for the Future."

This is not to say that this glowing and uncritical account of Conoco's growth is uninteresting. It was one of the few major oil companies in the nineteenth century that were founded in the West. Established by Isaac A. Blake in Ogden, Utah in 1875, the Continental Oil Company concentrated on the marketing of petroleum products rather than on production. Within a few years Blake extended his operations to Denver, and then to San Francisco where he developed territories for coal oil, kerosene, candles, bulk wax, and axle grease, mostly imported from Pennsylvania. During its first decade Continental was most successful in the Rocky Mountain area where it did not have to face the stiff competition it encountered in California from the Standard Oil Company. But by the turn of the century the Standard Oil Company in the east had absorbed its smaller rival. Only after the United States Supreme Court decision of 1911 dissolving the Standard monopoly was Continental once again independent. In the ensuing two decades it came under the influence of E. W. Marland, a swashbuckling Oklahoma oil man who greatly bolstered the company's expansion. Unfortunately, the discussion of the company's history after 1929 is so fragmentary and superficial that it belongs more properly in a brochure than in a book.

This volume is designed for the general public rather than for libraries or academicians. Although references to company records appear in the text, the work is without any documentation. It is cursory and superficial, highly selective and uncritical, and bears the stamp of overenthusiastic public relations experts and hucksters. The best that can be said of the book is that most readers will know a little more about Conoco

than they did before. A more serious and detailed history of Conoco is still very much to be desired.

E. Anthony Copp's volume is of a different nature, for it is a revised economics dissertation that bears the stamp of serious study. An economist who is currently manager of the Energy and Resource Development Group of Salomon Brothers in New York City, Copp is largely concerned with economic rather than historical analysis of federal intervention in the American refining industry after World War II. His work reflects an acute concern with floundering government policies during the energy crises of the 1970s and is designed to contribute to the formulation of more rational and comprehensive policies in the future.

In a succinct analysis Copp attempts to demonstrate that in many ways United States refining policies between 1948 and 1975 did not promote the national interest, especially by increasing American reliance on foreign oil. Inchoate, irrational, and wasteful, federal policies were at best a bundle of contradictions. No President or Congress during these years assumed the serious responsibility of providing leadership for long– or even short–range planning of the nation's energy needs. And courts were usually ill–equipped to play a constructive role in such policymaking. Such energy policies as emerged from public agencies were a haphazard composite of impulsive reactions to the demands of special interest groups. Since the three branches of the federal government as well as administrative agencies were committed to maintaining competition in the petroleum industry they continually encouraged independent refiners against the major integrated companies. In view of this primary political concern the economic efficiency of major or minor refiners became secondary, largely subordinated to non-economic considerations. Consequently federal policies tended to subsidize less efficient independent refiners at the same time that they bolstered the market power of the majors. The result was a lowered level of efficiency in the refining industry, which spilled over into production.

Those who defended the policy of maintaining regulated competition (distinct from market competition) at any price often sought to justify themselves by adducing arguments concerning the need for national security. As the United States was involved in the Cold War and two major Far Eastern wars during this period, national security greatly overshadowed economic efficiency as a prime goal in national energy decisions. The confusion generated by this unconcern for the economic viability of the domestic refining industry was further compounded by an utter lack of coordination in federal energy policies. While the national government was following one course of action in respect to petroleum it was following quite another concerning natural gas. Despite the clear language of the Natural Gas Act of 1938, which delimited federal jurisdiction over the transmission of gas, the Federal Power Commission and the courts assumed stringent controls over natural gas production and pricing. At no time between 1948 and 1975 did national leaders seek to coordinate gas and petroleum policies, or for that matter, policies concerning other energy resources such as coal or uranium. The ultimate result of this uncoordinated morass of decisions made by scores of federal officials was to lead the United States into increasing dependence on oil overseas. And such reliance, in turn, bolstered strong inflationary

pressures at home, which threatened the stability of the whole economy.

Copp offers no sure remedies for the dilemmas of the 1970s. He does urge federal policies that would encourage capital formation in petroleum research and development to develop remaining oil, gas, and other energy resources. More immediately, he advocates creation of refining capacity to meet the needs of national emergencies, largely through tax incentives and similar encouragements. At the same time he urges a higher degree of coordination in national energy policies, particularly the deregulation of natural gas. No matter what decisions are taken, however, he believes that increased government involvement in the petroleum industry is inevitable in the near future, if only to unravel the grievous mistakes of the past.

Copp presents his arguments in a convincing manner. Most of the book deals with federal domestic policies concerning refining, but an additional chapter analyzes OPEC's rise to power. His epilogue contains a good summary of the contents and his prognosis for the future. Documentation in accompanying footnotes is adequate. Since the author's framework is that of an economist, his sources are drawn almost exclusively from that field. But if this study is of somewhat narrow scope, nevertheless historians will still find it to be instructive and enlightening.

Both of these volumes alert historians to research opportunities that remain unexploited.

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THE U.S. FOREST SERVICE: A HISTORY. ***By Harold K. Steen. Seattle, University of Washington Press, 1976. Pp. xiv + 356. $15.00.***

Reviewed by David C. Smith
Professor of History
University of Maine, Orono

Writing the history of a governmental agency is a terribly difficult task. The amount of paper usable as source material is enormous. The sensibilities of the agency, if it is still extant, are a strong factor in obtaining the real story. The perceived history must always stand in the way. The historian is often viewed as a muckraker at worst, as a potential diminisher of federal funds at best. To top all this the author has the unenviable task of attempting to bring people to the front, not the administrative decisions or the tables of organization of the agency. In fact, most historians simply seek out other topics rather than brave the dangers of Washington, the National Archives, and the built-in suspicions of the personnel.

It is a great pleasure to say that Harold Steen has not turned away from his task, and further that he has met the problems and solved them. In the process he has produced an excellent book, one that will stand as a model for other agency historians, and one that may entice others to emulate him. For instance, as I write, the Interior Department is looking for a historian for its vast historic past. Steen's book will help whoever is chosen, and will point out the pitfalls and difficulties inherent in the task, as well as showing how to overcome them.

The Forest Service has a good history to write. To begin with, a number of interesting persons have been associated with the Service. It has

not been free of controversy. It manages huge acreages of public land, and its methods and techniques of management have constantly been in public view and under public criticism. A hundred years of history since its founding in 1876 are rich with information about the history of the U.S. and its land management and problems.

Steen is especially good in his depiction of the early leadership of the Forest Service, Franklin B. Hough, Nathaniel Egleston, B. E. Fernow, and Gifford Pinchot. Of these four, Hough has been seldom treated in the past, Egleston almost never, Fernow with too much criticism and Pinchot with far too little. Steen is able to redress the balance in all cases, with a light touch and telling use of the original sources. Admirers of Pinchot will find their hero much less of a saint that he would have hoped but it is time to set that particular record straight.

The various pieces of congressional legislation, and the presidential proclamations setting aside governmental lands are covered well. The politics behind these events is probed. By 1910 or so, a governmental forest policy was well set, with an active group of professionals pursuing its goals. The relationship of the federal government's policies to the development of private forestry plans is also well covered. Although most will still think of the USFS as primarily a western agency, it is work with private eastern firms, the research undertaken at the various Forest Experiment Stations, and the scientific studies done at the Forest Products Laboratory that have done most to preserve the eastern and southern forests after the first loggers had followed their "cut out and get out" policies.

The New Deal is discussed in a strong chapter, and such items in lumbering history as the Copeland Report are dealt with in a meaningful way. The efforts of Harold Ickes and the Interior Department to detach the Forest Service from Agriculture receive due notice. As we perhaps move toward formation of a new department of Conservation, it may be apposite to note that others have called for these innovations before. The Forest Service has up to now resisted such change; that opportunity is probably past.

One of the areas of great controversy and friction has been in the development of a recreation and land use policy. The Forest Service, the National Parks Service, the Bureau of Reclamation and others all manage lands, but often times the Park Service has received credit for the work of others, while the Forest Service has received the blame for others. This problem is discussed in this book and the last two chapters provide us with a guide to the problems since World War II of "multiple use" and the environmental challenge to that concept and others.

The University of Washington press has produced a lovely book. The type is easy to read. The footnotes are where they belong. The photographs (38) are well-chosen and situated throughout the book as an aid to the reader. A good bibliography and index are included. The only thing that I could ask for would be a chapter that would deal with the day-to-day life and work of the rangers, but in his preface Steen says that given the sorts of materials preserved this simply was impossible. The individual forester and ranger do shine through on occasion. The book is primarily an administrative history and it focuses on Wash-

ington. It is a very good book, though, and one that the Forest Service must be very happy with. As a historian I certainly am.

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PERSPECTIVES AND IRONY IN AMERICAN SLAVERY. ***Edited by Harry P. Owens. Jackson, University Press of Mississippi, 1976. Pp. xii + 188. $8.50, cloth; $3.50, paper.***

Reviewed by Alan M. Kraut
Assistant Professor of History
The American University

It is unlikely that all of the important questions about American Negro slavery will ever be definitively answered. The complexity of the issues involved and the scarcity of reliable sources will continue to bedevil the experts. The seven renowned scholars who have contributed essays to this volume do not claim final solutions. However, the recent publication of several provocative books on slavery make timely these crisp articles from historians and economists who have notably contributed to the study of slavery over the past decade.

The seven essayists are Carl Degler, Eugene D. Genovese, David B. Davis, Stanley L. Engerman, William K. Scarborough, John W. Blassingame, and Kenneth M. Stampp. Their essays were originally presented as papers at a symposium on slavery sponsored by the University of Mississippi's Department of History. Professor Harry P. Owens, who teaches in that department, has edited the manuscripts and added a useful, though selective, bibliography of recent slavery literature.

In the first essay, Carl Degler stresses the ironies of slavery in antebellum America – the founding fathers boasted of freedom, while protesting their property rights in human flesh; the institution became a matter of controversy at just the time when southern slaves were being dealt with more humanely than bondsmen in any other slaveholding society. Most ironic for Degler, however, is scholars' contemporary treatment of the institution. He argues that while historians have sought to demonstrate the complexity of slavery, they have frequently overlooked the most unique aspect of the institution in America, "the racial element." Slavery, a universal form of repression, must also be regarded by future investigators as a racial boundary marker in American society, according to Degler.

Eugene Genovese, also aware of the inherent ironies in American Negro slavery, provides a global perspective in his essay. Through a prism of Marxist assumptions, Genovese maintains that bourgeois capitalism, itself a product of the assault on landed classes, spawned a system of slavery that nearly proved its undoing. This new slaveholding class sought to block the evolution of the socio-economic system that had produced it. Increasingly, he suggests, these slavemasters sought to separate the bourgeois idea of freedom from the ideas of democracy and social justice, while their slaves struggled against the new forces of oppression.

Noting yet another irony, David B. Davis finds that the slaveholders' arguments in defense of their institution delimited the range of counter-arguments offered by the reformers. Southern apologists defended slavery on the grounds of black inferiority. Abolitionists denied that blacks were

inferior, but accepted this definition of the problem, according to Davis. As a result, reformers ignored slavery's economic consequences. Davis suggests that because few abolitionists talked of "cost, productivity, resources, and national interest," Americans were spared the grim reality that national economic development was linked to a system of unfree labor.

Unlike the abolitionists, contemporary econometricians such as Stanley Engerman have expended much effort examining the economics of southern slavery. Engerman ambitiously seeks to explain the various controversies that rage among students of the economics of slavery. It is the least focused essay in the collection because of the many complex issues Engerman attempts to summarize. However, he succeeds in his main purpose, to demonstrate that the slave economy remains an area of historical interest because it is inseparable from the broader social and cultural aspects of American Negro slavery.

William K. Scarborough and John W. Blassingame are less interested in the slave economy than in those most directly affected by it. Scarborough studies the planters, Blassingame, the bondsmen. Ironically, while many historians have mentioned paternalism as the foundation of the master-slave relationship, they have simultaneously claimed that masters were motivated solely by the quest for profits or for social control. Scarborough regrets this ambiguity and suggests that paternalism was not necessarily inconsistent with capitalism, and that the personality types and behavioral patterns of masters were as varied as those of the slaves. He finds that many masters were not tyrants, but offered their slaves incentives for good work. Slaves could at times ameliorate the system's harshness by offering the master advice and, when necessary, encouraging disharmony between the master and his overseer.

The influence exercised by the enslaved on their own condition has inspired John Blassingame's research. In this essay, he maintains that previous historians have misread the social structure of the slave community. The slave's status among his peers depended upon the services he performed for other slaves rather than for whites, according to Blassingame. He finds that conjurers, preachers, midwives and folklorists were generally held in higher esteem than house servants, drivers, or artisans. The plantation records upon which previous interpretations were based reflected the master's ego. Blassingame supplants these with slave folklore, testimony from W.P.A. interviews, and slave letters and autobiographies. Though not extensive, these sources at least suggest the bondsman's perception of slave society.

Hopelessly inadequate or imprecise data is one of the major burdens that the historian of slavery must bear, Kenneth Stampp explains in the volume's concluding essay. He remains unpersuaded that "revisionism always represents progress," but he does grant that bold new interpretations, even those that exceed the evidence available, "keep our profession alive," and lend vitality to teaching and research. Stampp's article is a fine overview of past interpretations, those currently in vogue, and the direction that historians are likely to pursue in the future.

This book is not for beginners. The authors address an audience already initiated into the study of slavery and aware of, if not familiar with, the scholarship on the subject. In his introduction to the volume,

editor Owens explains that Degler's theme of irony evolved as the theme of the symposium. The non-specialist would have benefited from a lengthier, more erudite introduction that picked the common thread of irony from the fabric of each essay. With this caveat, the essayists all bear their scholarly burdens gracefully, and in so doing make the task of keeping abreast of advances in research on American Negro slavery a less oppressive task than it might otherwise be.

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URBAN SLAVERY IN THE AMERICAN SOUTH, 1820–1860: A QUANTITATIVE HISTORY. ***By Claudia Dale Goldin. Chicago, The University of Chicago Press, 1976. Pp. xvi + 168. $12.95.***

Reviewed by David O. Whitten
Associate Professor of Economics
Auburn University

The number of slaves residing in American cities peaked during the years 1830 to 1850, and declined thereafter. Two basic and opposite explanations have been offered, historically, for this variation from the experience of rural slavery. Slavery, it has been argued on the one hand, is incompatible with urban living. A city provides too many possibilities for slave mischief, too much freedom. Urban populations, then, sought to drive out slaves by passing laws making city slavery more and more expensive. As these laws grew in number and effectiveness urban slavery declined. This "push" explanation is countered by a "pull" thesis that suggests that the comparative advantage of slave employment in staple crop agriculture pulled slaves from the cities.

Claudia Goldin's initial interest in the urban slavery question centered about an effort to quantitatively substantiate the push thesis. Her data, in conjunction with her model, failed to support the push hypothesis. She turned then to the construction of a model that would provide clues to the mystery of declining urban slavery. *Urban Slavery in the American South* embodies this research.

The volume begins in the fashion of a historical monograph with an introduction and a chapter on the "Urban Setting of the South." The historical format persists through chapters three and four: "Life in the Cities" is outlined in the former, and the decline of urban slavery is the topic of the latter. The trappings of monographic history fall away in chapter five, the *raison d'être* of the volume. To read the Goldin work without chapter five would be a shame. The non-quantitative historian could expect to be hopelessly lost here. The author, however, urges her readers to move through her discussions on model construction and interpretations, even if they do not understand everything they read. This is worthy advice. Goldin does not lose sight of her goal of investigating urban slavery quantitatively, but at once she maintains an appreciation of the technical gap between herself and some of her anticipated readers.

The models Goldin presents (there are two, an abbreviated one and another more complete construction) support her conclusion that slavery was not incompatible with urban life, but in fact was a thriving part of a vital urban existence. Her evidence shows urban slave demand growing throughout the antebellum period. Noteworthy is the fact that Goldin

examines the major cities of slave residence as a group, as subgroups, and as separate units so as to provide illumination of the urban slave issue from every angle, not just from one suitable to her goals. The failure of the push thesis prompts Goldin to suggest its origin in propaganda distributed by the free white labor groups seeking to improve their own positions relative to slaves in the cities.

If slaves were not pushed from the cities and slave demand was growing throughout the period, why the decline of urban slavery? Goldin's model reveals a higher price elasticity of demand for urban slaves than for their rural counterparts. Although slaves equipped with certain marketable skills enjoyed price inelasticity in the city, slaves in general were more easily replaced in an urban setting than in an agricultural one. Despite rising demand for slaves in the cities, their rising prices brought a decline in their numbers in the city as they were pulled into agricultural employment.

The reader, with or without the technical experise of the author, will gain insights from Goldin's work. Certainly the quantitative analysis could be done in other ways and various assumptions are subject to debate, but overall, there can be little doubt of the intellectual honesty of the author and high explanatory value of the work. She has employed data gathered from extensive research into primary sources. The raw data alone present sufficient reason for examining this volume. The author has constructed her models on a foundation of reasonable and well-set-out assumptions. She places in these models the impressive data from her archival research. Her conclusions provide latitude for variation in assumptions as she supplies several possible outcomes based on changes in basic assumptions. The results are clearly interpreted, supplying the reader with the most extensive coverage of American urban slavery currently available. The book is a positive addition to the vastly over-expanded body of literature on American slavery and the underdeveloped area of urban slavery. Historians, economic historians, and business historians will benefit from a close reading of *Urban Slavery in the American South.*

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BUSINESS INFORMATION SOURCES. ***By Lorna M. Daniells. Berkeley, University of California Press, 1976. Pp. xvi + 439. $14.95.***

Reviewed by Virgil F. Massman
Executive Director
James J. Hill Reference Library
Saint Paul, Minnesota

This is the best work in its field. It is intended for businessmen, business students, and librarians as a general rather than an exhaustive guide to business information sources.

The book reflects the complexities of compiling a list of business information sources, since business is one of those areas that impinge on many others. It is necessary to go beyond business, but where does one stop? Thus Lorna M. Daniells includes *Psychological Abstracts, Sociological Abstracts, Applied Science & Technology Index, Engineering Index,* the *Readers' Guide to Periodical Literature,* and *Social Sciences Index.*

However, the *Biological & Agricultural Index* is not mentioned, and the *Bibliography of Agriculture* is cited in a note; both contain much business and economic information and are important for certain businesses.

Similarly a few general encyclopedias and basic sources of book purchasing information are included. However, there is no mention of any general American guide to reference books nor of the various Library of Congress (LC) catalogs, which are major sources for both recent and retrospective publications, nor of the machine readable cataloging records (MARC) produced by LC. The LC MARC records are being widely used for library cataloging and by some libraries for selective dissemination of information. The Ohio College Library Center (OCLC), which is important as an on-line cataloging and bibliographic system used by more than 1,000 libraries, is not mentioned either. The LC catalogs, MARC, OCLC, and other similar systems are and will become even more important for businessmen who wish to keep current, who need information on special topics, and who need to locate resources in other libraries.

Data bases are mentioned in several places, as are directories of computerized information sources. However, because business students who are earning their degrees now will obtain much of their information from on-line data bases in the future, these deserve even more attention than Daniells gives them. Because businessmen may need information on a wide variety of subjects such as health care services, computers, pollution control, government contracts, and many others, they should be aware of the many general and specialized data bases available in business, medicine, science, technology, etc.

It is perhaps a matter of personal perspective, but I believe that the primary need of the businessman and student is to know where to look (i.e., the guides, bibliographies, on-line data bases, etc.). While they fit Daniells' intent in writing the book, there is too much emphasis on textbooks and basic reading lists. Many such works are soon outdated or superseded. Consequently, such works should be covered very sparsely, and any titles that are included deserve little attention in reviews. The most important business education programs are at the Master's degree level and beyond. Many of these students will go into teaching and into important positions in business, and the graduate is better served by knowing where to look than by being given a list of the best monographs as of the date when the guide is being compiled.

What is true of the businessman and the student is even more true for the business historian. While the book contains a brief section on business history, it is not and does not claim to be for the business historian. The historian will find much that is useful here, but he will also have to look elsewhere. When a new edition is planned, it could be made more useful by adding a section on general bibliographies, more examples of subject bibliographies, and far more detail on the broad range and importance of data bases. If this necessitates eliminating some textbooks and other monographs, the gain with the broader coverage will, I believe, outweigh the loss of a few of the titles presently included.

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In the future the *Quarterly Review of Economics and Business* will devote some regular issues to special topics. The first of these will be on "Inflation and Current Value Accounting," edited by James C. McKeown. Submission of articles specifically intended for this issue is urged.

The focus is on considerations related to the interactions between inflation and accounting (theory and practice). *Among* the issues of interest are

(1) Development and analysis/commentary concerning models designed to provide useful information in an environment of changing prices and price levels;

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(3) Nonaccounting information sources or treatments which are or may be used to mitigate or remove problems in (2).

Empirical as well as theoretical papers are invited. Although the focus is on accounting, researchers in other areas are invited to submit papers, since the issues involved clearly extend into other disciplines.

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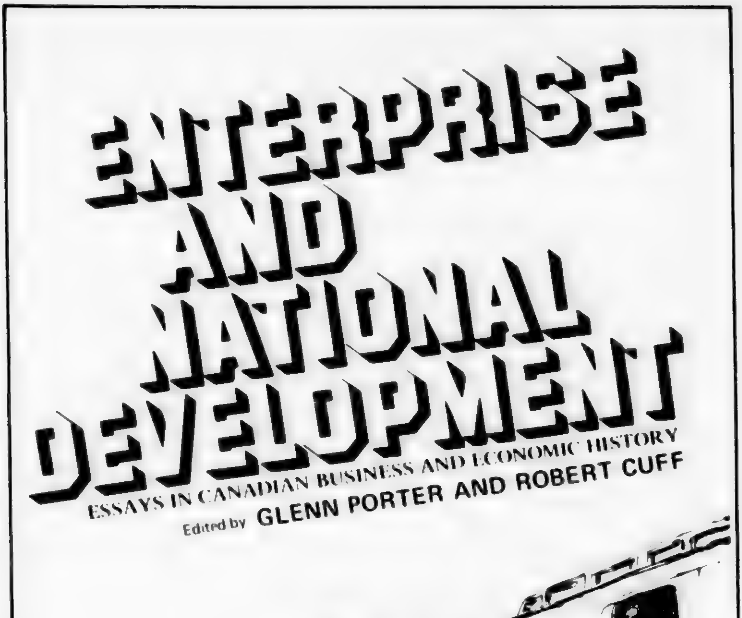

These essays deal with a wide range of important topics in the interaction of business, government, and society in Canada. Their value is two-fold. As careful explorations of Canadian history, they provide important insights into the Canadian past. But the issues they treat are still with us, and these essays make important contributions to the continuing debate over such enduring issues as the mainsprings of national identity, the impact of foreign influence on the economy, the search for economic growth, and the optimum relationship between federal and provincial governments in shaping national development.

These essays appeared originally in *Business History Review*. Contributors: Glenn Porter, Christopher Armstrong, H. V. Nelles, Michael Bliss, T. W. Acheson, Stephen Scheinberg, Patricia E. Roy, Alan Wilson. 138 pp. $2.50/$6.95.

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Criteria for selection include: originality, value, breadth, and interest of contribution, quality of research materials and methods, and quality of presentation.

WINTER 1977

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BUSINESS HISTORY REVIEW

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- Employee Blacklisting on the Burlington Railroad 1877–1892
- Profitability of English Colliers in the 18th Century
- Mortgage Lending by National Banks
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Announces a

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$18,500

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¶ The Fellowship has two purposes. The first is to assist a recent Ph.D. graduate in history, economics, or a related discipline to improve his or her professional acquaintance with business and economic history, increase his or her skills as they relate to this field, and to engage in research that will benefit from the rich resources of Baker Library, other Harvard libraries, and the Boston-Cambridge scholarly community.

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¶ Inquiries and requests for application forms should be addressed to Professor Alfred D. Chandler, Jr., 214 Baker Library, Harvard University Graduate School of Business Administration, Boston, Massachusetts 02163.

¶ The application forms ask that candidates specify their purpose in applying for the Fellowship, the required MBA course which they would like to participate in teaching, and the topic, objectives, and design of the research to be undertaken. Applications should be accompanied by graduate school records, thesis abstract, the names and addresses of three persons who will support the application, and other credentials described in the form.

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¶ Applications for the Postdoctoral Fellowship in Business History must be submitted before February 15, 1978. The Fellowship will be awarded and all applicants notified by March 15, 1978. Material submitted with applications will be returned only if accompanied by postage and self-addressed return envelope.

By Harold C. Livesay
ASSOCIATE PROFESSOR OF HISTORY
UNIVERSITY OF MICHIGAN, ANN ARBOR

Entrepreneurial Persistence Through the Bureaucratic Age*

Taking issue with such earlier theorists as Schumpeter, who believed that the rise of bureaucratic structures would stifle the innovative process that lies at the heart of capitalism and thus lead on to socialism, Professor Livesay discusses the careers of three innovative leaders who used the bureaucratic form of organization to keep innovation alive and to realize its implications. He argues that with shrewd leaders like Andrew Carnegie and Henry Ford II (and less well-known ones like Howard Stoddard) at the helm, bureaucratic organizations have been the mechanism of highly dynamic policies rather than the agency of socialistic stasis.

Much of American economic and business history has become a bore, not only to the non-expert audience, but also to many of its erstwhile enthusiasts, including a fair number of us who perpetrate it. This sad state of affairs results, I think, not from the split between so-called "new" and "old" economic historians (the terminology is sloppy and the distinction foolish in any case). The decline stems rather from the tendency to (1) focus on institutions instead of people; (2) inject heavy frameworks of economic theory and institutional model building, both propped up with aggregate statistics that sometimes must be fabricated before they can be analyzed; and (3) concentrate on the economic development and institutions of the colonial and ante-bellum periods. Relatively little energy has been expended on the emergence of modern industrial America.

Studies of individuals have fallen from favor for many reasons, some of them more symptomatic of changing fashions in historiography than of an increase in the sophistication of historians or their methodology. Researching individual lives is hard, lonely work, not readily susceptible to team efforts. Analyzing human be-

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* I want to express my deep appreciation to the Horace H. Rackham Foundation at the University of Michigan, the Carnegie Foundation for World Peace, the National Endowment for the Humanities, and the American Council of Learned Societies for their support of my research and writing.

havior patterns uncovered by such research intimidates many historians who doubt their psychological qualifications for the task. Presenting such analyses cogently in print or in the classroom demands the literary grace of a novelist and the oratorical flair of an evangelist – neither skill conspicuously nourished in modern graduate schools. Finally, the current American environment tends to denigrate the effectiveness of individual efforts to shape, or even deflect history.

Since the late nineteenth century, and particularly since the New Deal, Americans have increasingly subscribed to the paradoxical proposition that only more and more centralization, bigger and bigger institutions, greater and greater group efforts can preserve the traditional individual rights to which their history entitles them. In granting workers the right to organize and bargain collectively, for example, the New Deal Congress declared that the denial of such a right led to "strikes and other forms of industrial strife or unrest which have . . . the necessary effect of burdening or obstructing commerce;" therefore, it was necessary "*to provide for the general welfare* by promoting . . . cooperative action among trade groups." [1]

Not surprisingly, this trend in the general society has been reflected in the rising popularity of such disciplines as sociology, which emphasizes "engineering" society as a whole or its constituent groups, and has meant heavy weather for history with its traditional focus on the role of the individual. Within the field of history itself, the response, as Louis Galambos predicted in 1970, has been a shift of attention from the study of people to analysis of groups and institutions.[2] Not only does this kind of history seem trendy and therefore attractive, but it also solves – or at least avoids – the dilemmas associated with the study of individuals.

I favor a redirection of effort, not because I think that antebellum or aggregative questions are inherently less interesting, but rather because they seem to me of limited usefulness in explaining the most salient process associated with the development of the modern economy, the emergence of large bureaucratic institutions – public and private. Whether created by the citizens themselves, or by their governments, such institutions dominate the economic skyline of every developed society on earth, a primacy commonly recognized as an integral component of manufacturing societies but

1 U.S. *Statutes at Large*, 73d Congress, First Session, XLVIII (June 16, 1933), 195, 198 and 74th Congress, First Session, XLIX (July 5, 1935), 440-450. Emphasis added.

2 Louis Galambos, "The Emerging Organizational Synthesis in Modern American History," *Business History Review*, XLIV (Autumn, 1970), 288.

equally prevalent in developed agricultural nations such as Austria and New Zealand, where government agencies employ more than a third of the work force.

Despite this dominance of bureaucracies, we know too little about the dynamics of such institutions, either in terms of their internal behavior or in terms of their external relationships with other institutions or with society as a whole.[3] This ignorance, much of it rooted in an absence of historical knowledge, prevails in the United States as well as elsewhere, despite widespread recognition of America as the pre-eminent business society. The remedy lies largely in the study of post-Civil War events, for, as Alfred D. Chandler, Jr. graphically illustrated in his presidential address to the Economic History Association some years ago, all the Americans who could have been described as "managers" in 1860 could easily have been housed in the Dupont Company's modern corporate headquarters building. Chandler argued that the American skyline, dominated by church steeples in the eighteenth century, by factory smokestacks in the nineteenth century, and by corporate office buildings in the twentieth century, symbolized a historical process poorly understood and little studied. There, in plain sight at every hand, lay *prima facie* evidence of the need for further research in more modern periods.

In this article I want to present some results of my research into the history of the dynamic relationships between individual entrepreneurs and business bureaucracies. These dynamics have played a major role in shaping capitalism's past and will surely do much to determine its future. Some of the material presented results from research focused on the careers of individuals; some derives from what began as institutional studies. All of it has reinforced my long-standing belief that individual people do make history and that understanding how they do it is what historians do best.

Schumpeter and Capitalism

In 1942 Joseph Schumpeter posed himself the question "Can capitalism survive?" "No, I do not think it can," he replied, going on to argue that capitalism's very success "inevitably creates con-

[3] This is not to say that nothing has been written on bureaucracies, for a great deal has. Most of it deals with either ideal types or contemporary behavior. Given the significance of bureaucracies in the development of American societies, the amount of serious historical work done thus far remains surprisingly small, though sometimes of excellent quality, for example, Alfred D. Chandler, Jr.'s *Strategy and Structure* (Cambridge, 1962), as well as his many other works. For other sources, considered in historiographic perspective, see Louis Galambos, "Organizational Synthesis."

ditions in which it will not be able to live." This contention he supported with observations on the historical evolution of capitalism, a process that he believed "strongly point[ed] to socialism as the heir apparent."[4] Schumpeter's view obviously owed much to his study of Marx and to the statistical and cultural consequences of the recent worldwide depression. The core of his argument, however, depended upon his imaginative manipulation of two ideal types: Max Weber's conception of bureaucracy as the inevitable handmaiden of modernization, and Schumpeter's own view of the entrepreneur as the indispensable mainspring of capitalism.

According to Schumpeter, it was the entrepreneur's function "to reform or revolutionize the pattern of production" by exploiting some innovation in technology, production, management, or marketing. "This kind of activity," he argued, was "primarily responsible" for capitalism's energetic surges of growth; but one of the consequences of the process was the burgeoning of bureaucracies that replaced "individual action" with "bureau and committee work" and "reduced . . . innovation itself . . . to routine."[5] Thus the inevitable outgrowth of successful capitalism was the destruction of its most essential component. The faster capitalism grew, the sooner it would die of hardening of the enterpreneurial arteries. Since Schumpeter's original gloomy prognosis, a number of historians and sociologists have picked up the theme and developed it in studies of economic and political institutions. Whether viewing business corporations, labor unions, government agencies, or political parties, these observers perceive an inevitable, irresistible process at work in which bureaucracy rolls on towards its foreordained destination, steamrollering mankind, making a mockery of free will, and controlling the individual's behavior and destiny.

The Schumpeterian thesis has received widespread acceptance. In an era of big business, big government, and big labor, it often seems to fit the observable facts. It furnishes, moreover, an ideological warhorse of formidable versatility that can be ridden by critics of the left and right. Whether one sees mushrooming bureaucracies as irrefutable evidence of movement toward some sort of socialism or as the instrument by which the forces of tyranny whittle away at individual liberty, depends on one's predispositions, for the evidence will work well in support of either position. In both cases, however, the individual's free will inevitably submits to organizational control.

[4] Joseph Schumpeter, *Capitalism, Socialism, and Democracy* (New York, 1942), 61.
[5] Schumpeter, *Capitalism*, 132.

I think there is ample evidence to posit a two-fold counter-thesis: first, that individuals sometimes do control bureaucracies – even massive, modern, industrial bureaucracies – so effectively that the organization becomes an instrument of personal will. In such cases, if the dominant person is talented, single-minded, and durable, his firm becomes a dynamic agency for growth in a capitalist economy because the inherent power of its bureaucratic management vastly multiplies, rather than stifles, the entrepreneurial spirit of its chief. I do not suggest that such individuals abound; obviously they are exceptional. Nor do I wish to imply that impersonal firms cannot generate dynamic innovations that propel the economy forward. Dupont's nylon, for example, was the handiwork of an experimental chemist buried far down in the company's organization chart. Enough similar examples exist to confound the notion that impersonal corporations inevitably stifle the enterepreneurial spirit of their minions. Indeed, such firms often exhibit enormous creative energy, sustaining economic growth in the United States and in some constructive cases, overseas as well. They have not done so alone, however, and what I want to show here is the continuing significance of firms in which authority functions in the older tradition, in the hands of a controlling owner. The success of these highly personalized enterprises shows that individual entrepreneurs have survived and prospered in an age characterized by anonymous bureaucracies. Together with other forms of business organizations, they have kept American capitalism vibrant and growing.

My second thesis is that while the passage of time adds many once-individualistic enterprises to the ranks of massive corporations run – and often run well – by cadres of anonymous managers, which dominate the American economy, new firms continue to appear and grow under the command of a controlling owner. I believe that this dual process has been a continuing feature of the American industrial economy. Its vitality suggests that capitalism contains not the seeds of its own destruction, but rather the seeds of its own regeneration, that its evolution is a cyclical one in which depersonalized, bureaucratic anonymity is a stage often occupied by individual firms, rather than the terminus of an inevitable linear progression carrying the whole society toward some form of bureaucratized socialism or fascism.

The American business landscape is dotted with firms that, while highly bureaucratized in structure, emerged as the institutional instrument of some determined men. Many of these firms are massive in size, and not a few rank well up in the *Fortune* "500's". Tom

Watson's IBM, Edwin Land's Polaroid, the Gianninis' Bank of America, are just a few of the corporations that grew to maturity while dominated by an entrepreneur who remained thoroughly in command of policy despite relinquishing day-to-day control of operations to a staff of professional managers.

Far from diminishing the influence of the principal proprietor, the bureaucratization of management in fact made possible the transformation of firms such as Polaroid from backyard enterprises into major industrial powers. In time these individualistic enterprises may pass into the hands of an anonymous corps of executives as have so many before them, but the transition usually signals the death or retirement of the proprietor, rather than the disappearance of opportunity. The transition is, in short, more a function of the human life cycle than of any linear economic evolution. Evidence of the circularity of the process can be seen in the history of a variety of American industries. Under George Eastman, Kodak dominated the American camera market; today Kodak's most vigorous rivalry comes from Edwin Land's Polaroid. Billy Durant's General Motors metamorphosed into today's behemoth; around the world it competes with the company firmly controlled by Henry Ford's grandson.

A great many similar examples could be cited, but here I would like to focus on three: Andrew Carnegie and Carnegie Steel; Howard Stoddard and the Michigan National Bank; and Henry Ford II, his post-war revival of the Ford Motor Company, and his grand design for its overseas operations. All three demonstrate the competitive power that can be generated by a dynamic entrepreneur in control of a managerial bureaucracy. Because these examples span a century of time, involve powerful firms in three different industries, and include one nationwide, one statewide, and one multinational enterprise, they testify to the pervasiveness of entrepreneurial resiliency and to the tendency of capitalism to find in bureaucracy a source of renewal.

Andrew Carnegie

Andrew Carnegie's career as a steel manufacturer presents the prototypical case of an entrepreneur who used sophisticated bureaucratic controls to power an idea born of a market perception into a dominant manufacturing reality.[6] In 1875 Carnegie's newly con-

[6] For a more lengthy discussion of Carnegie's career, see Harold C. Livesay, *Andrew Carnegie and the Rise of Big Business* (Boston, 1975). The discussion below derives largely from Chaps. 3, 6, 7, and 8.

structed rolling mill in Pittsburgh began to produce steel rails for the expanding American railroad system. Though he launched his firm in the midst of America's first industrial depression and had to steer it on a shakedown cruise through a period when, as one of his contemporaries observed, "you could not give away a rolling mill," [7] Carnegie so successfully managed his enterprise that twenty-five years later it produced more steel than the entire British industry, and did so at a cost no competitor could match.

Carnegie's success rested upon his ability to transfer successfully into a manufacturing enterprise the techniques he had learned during his years (1852–1865) on the Pennsylvania Railroad of J. Edgar Thomson and Thomas Scott. While on the Pennsylvania, regarded by most nineteenth-century observers as the epitome of efficient bureaucratic management, Carnegie learned two lessons fundamental to his subsequent success. First, he realized that American railroads offered an enormous potential market for rails, both for new construction and replacement, and that the future market would be for rails of steel, not iron. Second, he realized that competing successfully for this market would depend on the ability to turn out a high volume of product at low cost, which in turn required choosing and evaluating management personnel, knowing costs accurately at all times through constant attention to internal accounting, and reducing costs whenever possible through the introduction of technological improvements.

Carnegie began adapting his railroad skills to the problems of manufacturing management ten years before the first rail rolled out of Carnegie Steel. In 1862 he founded the Keystone Bridge Company to fabricate and erect iron bridges for the Pennsylvania and other railroads. In 1865 he assumed control of the Union Iron Company, a rolling mill and forge that produced plates, beams, and railroad axles. As he got into the iron business, he discovered that the accounting methods commonly used in the industry, like those of most American manufacturing firms of the time, had more in common with those of Medici-era merchants than they did with the modern systems Carnegie had learned on the Pennsylvania. From iron ore to finished product, the materials moved through a series of porcesses, but Carnegie "was greatly surprised to find that the cost of each of the various processes was unknown. Inquiries made of the leading manufacturers of Pittsburgh proved this. It was a lump business, and until stock was taken and the books

[7] Judge James H. Reed, quoted in Burton J. Hendrick, *The Life of Andrew Carnegie* (New York, 1932), I, 197.

balanced at the end of the year, the manufacturers were in total ignorance of the results. . . . I felt as if we were moles burrowing in the dark, and this to me was intolerable." [8]

Not only did such antiquated methods keep managers ignorant of the costs of production, but they also provided no way to evaluate the performance of employees, and left unchecked workers' tendencies to waste, or even steal, the company's assets. The Pennsylvania's system functioned so well that, as a stockholders' committee reported, the cost of "a day's labor, of the purchase of a keg of nails, or the largest order goes through such a system of checks and audits as to make fraud almost an impossibility." [9] In the iron business, on the other hand, Carnegie discovered owners "who, in the office, would not trust a clerk with five dollars without having a check upon him, were supplying tons of material daily to men in the mills without exacting an account of their stewardship by weighing what each returned in finished form." [10]

This intolerable situation Carnegie at once assaulted. First, he "insisted upon such a system of weighing and accounting being introduced throughout our works as would enable us to know what our cost was for each process." This in turn made it possible "by the aid of many clerks and the introduction of weighing scales throughout the mill" to achieve a situation where "responsibility for money or materials [could] be brought home to every man," and where individual perofrmances could be evaluated by seeing "who saved material, who wasted it, and who produced the best results . . . what every department was doing . . . what each of the many men working at the furnaces was doing, and . . . compare one with another." [11]

This cost-based method of management, pioneered in the 1840s and 1850s by railroad men such as Daniel McCallum of the Erie and J. Edgar Thomson and Tom Scott of the Pennsylvania, Carnegie employed throughout his career in manufacturing. From the nascent days of his small Pittsburgh rolling mill through the triumphant years when Carnegie Steel dominated its rivals, he demanded a continuous flow of cost data and used the results to make decisions about men and machinery. "Carnegie never wanted to know the profits," Charles Schwab reflected years later; "he always wanted to know the cost." "Show me your cost sheets," Carnegie demanded of his managers. "It is more interesting to know how well and how cheaply you have done this thing than how much money you have

[8] Andrew Carnegie, *Autobiography of Andrew Carnegie* (Boston, 1920), 135.
[9] *Report of the Investigating Committee of the Pennsylvania Railroad*, 1874, p. 102.
[10] Carnegie, *Autobiography*, 135.
[11] Carnegie, *Autobiography*, 135.

made, because the one is a temporary result, due possibly to the special conditions of the trade, but the other means a permanency that will go on with the works as long as they last."[12]

Employees who reduced costs could expect rapid promotions, in some cases eventual elevation to partnership in the firm. Those who failed could expect no mercy. Carnegie summarized this credo once in commenting on a suggested promotion: "He may be just the man we need. Give him a trial. That's all we get ourselves and all we can give to anyone. If he can win the race, he is our race-horse. If not, he goes to the cart."[13]

Carnegie's unremitting attention to cost reduction also lay behind his revolutionary attitude toward technological improvement. Holding down production expenses meant not only doing each stage of manufacturing as cheaply as possible, but also in forcing the largest quantity of material through the entire process in the shortest possible time. In addition, labor costs must be reduced or eliminated by every opportunity. All this meant using up-to-date machinery, and accepting the capital cost involved. Carnegie created the most modern plant that money could buy by hiring Alexander Holley, the world's foremost expert on Bessemer steel works, to design and build his mill. He stayed in the lead by a series of innovations in technique and by the constant replacement of obsolete machinery. Thus, Carnegie's firm pioneered in the integration of all stages of manufacturing from raw material to company-run sales offices, in the use of "hard-driving" in blast furnaces, in the use of the Bessemer method and the basic open-hearth process, and in the introduction of chemistry and metallurgy to improve production techniques. When more modern competitors such as Homestead and Duquesne appeared, he absorbed them intact into his complex.

Once convinced that a new process could save money, Carnegie never concerned himself with the capital costs, for he thoroughly understood economies of scale. On the railroad this had meant running big trains, heavily loaded, as fast as possible. In the steel business, he knew, "Cheapness is in proportion to the scale of production. To make ten tons of steel a day would cost many times as much per ton as to make one-hundred tons.... Thus the larger the scale of operation the cheaper the product."[14] If new equipment could reduce the unit cost of product, it came cheap at any price.

[12] Charles M. Schwab, quoted in David Brody, *Steel Workers in America: The Nonunion Era* (Cambridge, Mass., 1960), 2; "Charlie Schwab's View of Andrew Carnegie," *Literary Digest*, LXIV (February, 1920), 56.
[13] Quoted in Hendrick, *Carnegie*, I, 298.
[14] Quoted in Joseph F. Wall, *Andrew Carnegie* (New York, 1970), 506.

When the initial open-hearth using the Thomas Basic Process proved successful, Carnegie ordered six more furnaces constructed immediately, warning that "Every day's delay in building . . . is just so much clear profit lost." [15] He once ordered Charles Schwab to rebuild a three-month-old rolling mill at once when Schwab said he had found a better design.

By adhering constantly to his principle of knowing costs and reducing them at every turn, Carnegie drove his firm to the top, beat back his competitors as swiftly as they emerged, and set a pattern of bureaucratic management that American industry copied widely. He did so even though he had "no shadow of claim to rank as inventor, chemist, investigator, or mechanician," [16] and despite his habit of absenting himself for long periods. He made his main home in New York after 1867, and he punctuated his business career with world cruises and sabbaticals in Scotland.) Although he relinquished some measure of control to Henry Frick and later to Charles Schwab, he always retained a majority share and exercised his power over the firm's destiny, including its final step, the merger into United States Steel in 1901.

That Carnegie's personal dynamism and policies permeated and dominated the firm's vast bureaucracy, few of his contemporaries doubted. Nor can one doubt his success. When he retired he was making more steel than any other company in the United States, and more than any other country in the rest of the world; he made it more cheaply than anyone else, knew the costs better on the last day of business than he had on the first, and beat costs down so successfully that the last year's operation yielded a profit of $40,000,-000. He molded his firm into such a perfect instrument of his will that a Morgan partner declared him "a threat and menace to the steel trade of the United States." Elbert Gary, who headed Federal Steel, one of Carnegie's competitors, before becoming chairman of United States Steel, thought that "the Carnegie Company [might] have driven entirely out of business every steel company in the United States." "I believe you would have captured the steel trade of the world if you had stayed in business," Congressman Stanley observed during his committee's hearings on United States Steel. "I am as certain of it as I can be . . . of anything," Carnegie replied.[17]

When Carnegie retired, his firm slipped into the bureaucratic anonymity of the United States Steel Corporation, but he quit be-

[15] Wall, *Carnegie*, 505.
[16] Hendrick, *Carnegie*, I, 203.
[17] Various testimony given to the Stanley Committee, quoted in Hendrick, *Carnegie*, II, 146.

cause he wanted to, not because he had to. Had he continued, his individualistic company could easily have absorbed or destroyed its corporate competitors; and since he lived vigorously for twenty more years, there seems little reason to doubt that he could have gone on had he pleased, whatever Morgan partners and the rest of Wall Street might have thought about it. His passing from the scene meant simply the end of one man's career in building and controlling a massive enterprise; it did not signal the end of such opportunities, nor the last of the men who could seize them.

Howard B. Stoddard

Forty years almost to the day after Andrew Carnegie's retirement from business, Howard B. Stoddard announced the formation of the Michigan National Bank with headquarters in Lansing, the state capital. At its inception, Michigan National amalgamated banks in six cities outside the Detroit area: Lansing, Flint, Battle Creek, Saginaw, Port Huron, and Marshall. Each of the constituent banks, while of considerable local importance prior to the merger, were of minor consequence to banking in the state as a whole – dominated as it was by the big Detroit and Chicago firms – and were insignificant on the national banking scene.

Despite these modest beginnings, within thirty years Michigan National attained a position of power and prestige, ranking fourth in the state – largest outside Detroit – and thirty-sixth in the nation in 1972. During this period, its rate of growth tripled the national average for banking firms, and Michigan National attracted industry-wide attention for a series of marketing innovations such as longer business hours (including full-service banking on Saturdays), drive-in windows, mobile home financing, bank credit cards, and an emphasis on home mortgages and consumer installment finance. The Bank also pushed steadily ahead with internal structural modernizations such as centralized, computerized bookkeeping, and it followed Bank of America, the industry leader, in forging an expanding chain of offices across the state.

Stoddard, like Carnegie before him, created a bureaucracy to manage his firm's routine affairs, delegating considerable authority to subordinates. "We have pioneered in Michigan a system of branch banking," he said in 1952, "with centralization of policy but decentralization of operating responsibility and authority."[18] Al-

[18] *Michigan National Bank, Annual Report, 1952.* Miscellaneous data on size, earnings, and offices came from the appropriate volumes of *Moody's Bank and Financial Manual* and the annual reports of Michigan National Bank, on file at the Business Administration Library, University of Michigan.

though he encouraged his subordinates' innovative spirit and often adopted their ideas, the firm remained solidly under his control. Its growth in size meant not a decline of his influence, but rather the perfection of an ever more potent instrument of his policy. In making that policy Stoddard, again like Carnegie, combined an accurate market perception with a clear vision of the kind of institution necessary to capitalize upon it, both acquired in previous experiences in the service of others. In addition, he embodied a restless drive to succeed, a single-minded dedication to his business, and an ability to maintain that drive throughout his career. That he succeeded so well despite the considerable handicap of having entered the money business with virtually no money of his own testifies to his determined character and his acute ability to learn from experience. Moreover, it shows that the opportunity to found an individual business and maintain control over its expanding bureaucracy still existed forty years after waves of mergers swept many family firms away into the anonymity of corporate Brobdingnag. What was needed, as always, was a man who could seize the chance and the time. Stoddard showed himself one such, notwithstanding the fact that much of the knowledge and many of the contacts that proved vital later, he acquired while in the service of what critics have often damned as the most initiative-stifling bureaucracy of them all, the Federal Government.

Stoddard was born the same year as United States Steel, 1901, in Baker, Oregon. The son of a Mormon lumberman, he typified in his early years many Mormon young men of his time, emphasizing hard work, education, and the church. He graduated from Oregon State University in 1922, after serving a year as a missionary in Germany. Early in life he manifested an interest in banking, reputedly because the local banker had the largest motor car in Baker. Moreover, the chaotic nature of the lumber business rendered uncertain his career prospects. In addition, the Stoddard family was large and Howard, with several older brothers whose futures depended on the family firm's fortunes, feared that timbering offered scant scope to his ambitions. In following his star, he found like many other Mormon young people, that it led him far beyond the bounds of his Deseret homeland.[19]

After graduating from Oregon State, Stoddard studied in the Business School of Columbia University, where he wrote a Master's thesis on branch banking. His thesis showed that the most significant

[19] Interview with Howard Stoddard's brother, Waldo Stoddard, Grand Rapids, Michigan, June 15, 1973; interview with Fred Lavery, former president, Michigan National Bank of Flint, Flint, Michigan, October 26, 1973.

influence on his attitudes toward banking structures had been exerted by A. P. Giannini and his Bank of America. Giannini, operating under liberal California banking laws more closely attuned to the loose traditions of the old frontier than to the Americanized-English traditions codified in eastern banking statutes, had expanded his San Francisco firm into a statewide institution that grew into the largest in the world. For many western bankers Giannini's example seemed more relevant to their environment with its vast areas, sparse population, and lack of large financial centers than did the unit banking system favored by financiers in the East and often demanded by the eastern states' laws. In the West, chains of banks, or branches of a single bank, could often shift scarce capital to areas where it was needed but could not be locally raised, a problem that rarely plagued the institutions of the Mellons and Rockefellers with their vast local resources and markets.

After three years' service in the trust department of Irving Trust Company in New York and an interlude spent reorganizing the family's affairs in Oregon, Stoddard moved on to Utah to work for the First Securities Corporation of Salt Lake City. There his faith in the efficacy of chain or branch banking was reinforced, for First Securities was one of the foremost practitioners of the method, with branches or affiliates in Utah, Oregon, and Idaho. Moreover, control of the firm lay in the hands of the Eccles family and in the particularly imaginative mind of Stoddard's cousin, Marriner S. Eccles, a free-thinker frequently at odds with his more traditional banking brethren. Eccles's ideas, like Giannini's, played a major part in shaping Stoddard's views, as Stoddard himself frequently stated.[20] When he left First Securities in 1932, he had already formed a clear picture of the ideal structure for a banking organization: it would draw on the small resources of many people rather than rely on the massive wealth of a few, and it would use a chain of offices to funnel assets into and out of local communities as required. But before he could bring this idea to fruition under his own control, Stoddard first had to weather the vicissitudes of the Great Depression.

In 1932, Stoddard accepted an invitation from Jesse Jones, head

[20] Interview with Marriner S. Eccles, Salt Lake City, Utah, March 17 and 18, 1973; interview with James B. Alley, New York City, February 10, 1973, and with Joseph Verhelle, Detroit, Michigan, October 4, 1973. Both Alley, who was associated with the Reconstruction Finance Corporation in 1933, and Verhelle, then affiliated with the First National Bank of Detroit, worked closely with Howard Stoddard during his early years in Michigan; interview with Russell Fairles, former senior vice-president, Michigan National Bank, Lansing, Michigan, October 22, 1973. See also Marriner S. Eccles, *Beckoning Frontiers* (New York, 1951). Virtually everyone interviewed spoke of Stoddard's admiration for and friendship with A. P. Giannini. Fairles, who worked more closely with Stoddard than anyone, emphasized this influence, as did Stoddard's son and successor, Stanford G. Stoddard, in several conversations in 1972 and 1973.

of the Reconstruction Finance Corporation (RFC), to come to Washington and join the banking division. Jones soon dispatched him to Detroit, where the Motor City's banks, beset by the decline in the auto business and weighted down with heavy, illiquid investments in residential mortgages, faced imminent collapse.[21] In his role first as an RFC examiner, then as District Superintendent, Stoddard perceived the opportunity to develop a banking network of his own by acquiring sound firms in cities outside of Detroit. (In Detroit, the dominance of the local scene by the automobile companies made improbable a successful intrusion by an outsider with little capital.) But, since he had no money of his own – in fact he sent some of his RFC salary to Oregon to pay off the family firm's debts – he could for a time do nothing to take advantage of the opportunity.

In 1935 Stoddard left RFC to become vice-president of the Guardian Depositors Association, which liquidated the assets of the Guardian Depositors Bank of Commerce. In the course of his duties with the Guardian, Stoddard dealt with the bank's major depositors and shareholders, and one of them, Charles Bohn, provided Stoddard with the one element he lacked to set his plans in motion, capital. Bohn himself presented an archetype of the American entrepreneur-capitalist. Beginning as a foundry apprentice in Ohio, he eventually developed a technique for casting aluminum, foresaw its future as a replacement for steel as a manufacturing component, and built a firm that became a major supplier of aluminum castings to the automobile industry. As one of the pioneer factors in the auto industry, Bohn, like Alfred Sloan, Charles S. Mott, the Fisher brothers, and many others, rode its flooding tide to a personal fortune. His native shrewdness preserved his wealth through the Great Crash, and his restless urge for investment kept him looking for chances to place the money to advantage, a chancy business in the uncertain economic climate of the Depression.[22]

Stoddard found that Bohn shared his optimism about the future of the country as a whole and of Michigan as an industrial center. He persuaded Bohn of the efficacy of his banking plan, and Bohn in effect provided a blank check to buy the stock of banks of Stoddard's choosing. Between 1935 and 1940, the partners gradually acquired a controlling interest in the six banks that eventually be-

[21] The Detroit banking crisis frightened the national financial community at the time, and has received much scholarly attention in several fields. For a fine account, listing the more important sources, see Susan Estabrook Kennedy, *The Banking Crisis of 1933* (Lexington, Kentucky, 1973).

[22] Alley interview; Fairles interview.

came Michigan National. Bohn himself played no role except that of capital source, leaving everything else to Stoddard. Stoddard largely escaped public notice until he became president of Lansing National Bank in January, 1940. Lansing, which enjoyed a relatively stable economy as the site of the state government and Michigan State University, and which was geographically central to the other banks, offered an ideal location for the new firm's headquarters. In November 1940, the Comptroller of the Currency consented to the merger of Stoddard's six banks into one. Russell Fairles, one of Stoddard's associates, used a form copied from Bank of America's to consolidate the books, and the new Michigan National Bank, "Owned by Michigan capital, operated by Michigan directors," opened on the first business day of 1941.[23]

From the first day Stoddard pushed on. Aided by the expanding wartime economy, which brought renewed strength to Michigan's industrial backbone, the firm steadily increased its number of offices and its resources. Adding banks in Detroit, Flint, Grand Rapids, and Battle Creek, as well as in Grand Ledge and other smaller cities, the Bank's resources grew from $57,000,000 at the opening to over $1,200,000,000 thirty years later. Earnings expanded nearly as much, from $608,000 in 1941 to $11,000,000 in 1970, because Stoddard policies, implemented through his firm's bureaucratic structure, assured that efficiency did not get sacrificed to size. In fact, in 1972, when Michigan National ranked thirty-second among all United States banks (its highest position up to that time), it stood first in net income as a percentage of equity, and has consistently ranked in the top ten in this critical category.[24] Michigan National provided the state with its only chain bank, thus bringing back east a technique developed in the West, and providing an example of a peculiarly American historical process in which ideas born in the frontier wave rebounded off the western perimeter and rolled back across the country.

In addition to expanding his area of coverage, Stoddard maximized the offices' potential by increasing their accessibility. First, in December 1946, came longer banking hours. This innovation, too, originated in the West, and before trying it Stoddard and Fairles traveled to Oregon to see it in operation. Stoddard returned determined to "close when the merchants close." The Flint office opened from 9:30 to 4:30 Monday through Friday, and from 9:00 to 12:30 on Saturday. Success in Flint led to longer hours as a com-

[23] *Ibid.*
[24] *Michigan National Bank, Annual Report, 1970; Fortune*'s top list of the 50 commercial banks for 1972, in the July, 1973 issue.

pany-wide policy. Stoddard opened the first drive-in bank in Saginaw in 1949; eight years later 40 per cent of all Saginaw bank business came through such windows.[25]

Stoddard constantly sought new ways to generate revenue. Mobile home financing, although derided by one Boston banker as "a chattel mortgage on sardines in the ocean," was urged on him by his brother Waldo, who was convinced that it was as safe as any other home mortgage. It became a bonanza. Another of Waldo's suggestions, that Michigan National emulate Bank of America's Bank Americard, resulted in the creation of Michigan Bankard, another winner.

To monitor this expanding network of offices and services, Michigan National became the first midwestern bank to install centralized, computerized accounting for all its branches. This system, originally suggested by an officer of the Grand Rapids branch, offered a double appeal to Stoddard. First, new branches could be quickly and easily "plugged in" to the central computer and their operations closely watched from the outset. Second, the computer system gave Stoddard a steady flow of complete statistical information in a form that facilitated constant comparisons between branches and between different types of investments, however large and diverse the firm's activities became. Like Carnegie, Stoddard depended heavily upon such statistical comparisons to evaluate performances, and he looked over the accounts on an almost daily basis.[26]

Stoddard's ability to use his growing firm effectively depended on this close personal control. He was not content to rely solely on statistics, however. He left most decisions on loan policy to the branch officers, believing that they knew local conditions best, and judged their decisions largely by results; but this decentralized authority operated within strictly defined limits and under close scrutiny. Loans over $100,000 had to be referred to headquarters for approval. In addition, Stoddard maintained a policy – only rarely omitted – of attending the first monthly meeting at each of the major branches. His comments there helped mold his local surrogates into loan officers who understood his philosophy and carried it out.[27] Under such circumstances, dissent or disobedience was impossible to conceal, while at the same time subordinates had frequent opportunities to present new ideas to the one man with the authority to sanction them.

[25] Fairles interview; Flint *Journal*, December 1, 1946; Salt Lake *Tribune*, March 24, 1949.
[26] Fairles interview.
[27] Interview with M. F. Cotes, Palm Beach, Florida, March 4, 1973.

Finally, Stoddard convened a monthly meeting of the central board, consisting of the chief officers of each bank. There the success or failure of various local projects was discussed for the purpose of guilding future policy throughout the system. Stoddard considered these meetings so important that he never missed one, scheduling even the most extensive trips abroad so as to return in time.

When Stoddard died in 1971, his policies had proved their worth many times over, despite the fact that they often outraged his competitors and frightened the state bank examiners. Though his firm never expanded beyond Michigan boundaries, its innovative policies attracted the attention of banks everywhere, often receiving the ultimate compliment of imitation.

Like Carnegie before him, Stoddard adapted skills learned in the service of another, larger institution to the needs of his own enterprise and created a powerful combination of personal enterpreneurship and bureaucratic management. Unlike Carnegie who had no heir or successor, Howard Stoddard passed his domain on to his son, Stanford C. Stoddard, who has continued along the path his father laid out and has added goals of his own. Big, bureaucratized, but still personally run, Michigan National Bank continues to grow in size and efficiency, and shows no sign of disappearing or of being absorbed by its corporate competitors.

Henry Ford II

Henry Ford II's ability to shape the Ford Motor Company into an instrument of his personal policy and an embodiment of his world view presents the most astounding such case in the history of American business. Given the company's enormous size (consistently one of the ten largest corporations in the world), and the global scope of its operations (producing, assembling, or marketing in more than fifty countries, it sells more vehicles outside of North America than any other U.S. firm), Ford Motor Company obviously could not exist without a complex managerial bureaucracy to coordinate product development, purchasing, production, and sales. If ever a firm existed whose structure would appear to present an insuperable obstacle to individual domination, Ford would seem a prime candidate. In fact, the contrary situation prevails. Despite the obvious and necessary delegation of much authority to subordinate management, it remains clear both to industry observers and to company employees from the President in Dearborn, Michigan, to

the plant manager in Wellington, New Zealand, that the boss is the man who sometimes reminds them, "my name is on the building." [28]

Henry II's achievement looms even larger in light of the circumstances of his early years at the head of the company. In the fall of 1945, when he succeeded his legendary grandfather as president, Ford Motor Company was sliding rapidly down the razor blade of business life, headed toward an insignificant place in the industry, if not to bankruptcy or oblivion through sale to a competitor. It was not a matter of not being able to produce cars, but of not knowing what they cost. The company had no cost accounting system whatever; in its entire history it had employed no more sophisticated method of learning unit cost than dividing the number of units produced into the year's total expenditures. In fact, the company was run in 1945 the same way Carnegie had found the iron industry in 1865, as "a lump business."

For a long time, of course, there had not been any need to know costs; so long as new plants and bank balances kept going up, expenses were obviously well below income. Plenty of great fortunes have been made – by English textile manufacturers, for example – in blissful ignorance of costs. Henry Ford's was not the first, though it was surely the greatest and very likely the last. When the time arrived – probably during the declining auto market of 1920 and thereafter – when such information became important, the older Ford apparently did not care to know costs and did not try to find them out. For one thing Ford, like Edison and many other contemporary industrialists, was not intrigued by money *per se* and was not motivated by it. For another, for all that he was a twentieth-

[28] The Ford Motor Company's post-war revival and Henry Ford II's role therein has been the subject of a series of *Fortune* magazine articles, including "Rebirth of Ford" (May, 1947), "Ford's Fight for First" (September, 1954), "It's a New Kind of Ford Motor Company" (February, 1962), "There's a New Generation of Whiz Kids at Ford" (January, 1967), and "Henry Ford, Superstar" (May, 1973), as well as a plethora of other articles in journals in the United States and abroad. The quotation from Henry Ford II is in *Fortune*, January, 1967; statistical data and other factual information also was taken from the *Fortune* series. For a Ford president's view of Henry Ford II's primacy see the statement by Arjay Miller cited in footnote 33 below. The opinion of the "other ranks" is part of the information I collected in a series of interviews with Ford Motor Company management personnel, past and present, in Europe, Australia, and New Zealand in the spring and summer of 1975, some arranged by the company itself; some set up by me independently. These interviews covered a wide range of people in rank, in type of responsibility, and in nationality, ranging from Frank Erdman, the American President of Ford Asia Pacific and Brian S. Inglis, Australian Managing Director of Ford Australia, to industrial relations people on the shop floor and junior accountants in Ford of Europe offices, including Englishmen in New Zealand, Germans in Britain, and so on. They included members of all three of Ford's functional divisions: Product Development, Production, and Sales. Their universal spirit of cooperation characterizes a Ford Motor Company willingness to subject itself to a study of its past and present that is unusual among American corporations and unique among American automobile manufacturers. I am grateful to them all, and particularly to Ken Dowling and Stuart Knowlton of the Ford Management Training Program at World Headquarters in Dearborn. These gentlemen not only encouraged my study, but bore the brunt of making the complex arrangements.

century technician whose skills did much to modernize the world he lived in, and for all his prescience about economies of scale and the potential mass markets for automobiles, Ford had essentially a nineteenth-century, in some senses even an eighteenth-century, business mind.[29] He focused his efforts on design and production of a utilitarian vehicle and let costs take care of themselves.

Such a system had served well enough in the halcyon days of the Model T but had grown increasingly inadequate under the competitive onslaught of General Motors, where Alfred Sloan and his associates had installed cost controls that Carnegie would have envied, and had added to them the techniques of forward planning based on market forecasting. Ford Motor Company not only had no market forecasting capability, but could not have used the information if it had. Prior to 1946, no one at Ford had any idea what it cost to produce a car. Moreover, above the plant manager level, where old hands like Meade Bricker kept production moving, the company's lines of authority disappeared into a chaos of untitled executives who had no clear-cut responsibilities and whose positions often depended not on ability but on their personal relationships with Harry Bennett. Bennett, who rose from head of Ford's notorious plant protection forces to a murky but powerful role as the elder Henry Ford's trusted confidante, had no ability to manage such an enterprise.

In such chaotic circumstances only the enormous cash reserves and the residual good will of dealers and customers, built up during the firm's prewar years, kept it afloat until the younger Henry Ford arrived at the top.[30] It was, in fact, the frightening decline of those cash reserves that provided indisputable evidence of the company's disintegrating efficiency. That its products' popularity had already declined was shown by the fact that Ford Motor, which once made more cars than the rest of the industry combined, had slipped to third position behind General Motors and Chrysler. Complicating this toilsome situation was the fact that Ford faced

[29] Ford believed, for example, that people essentially bought what they needed, rather than what they wanted, that is they bought cars for utilitarian rather than aesthetic reasons. Like Carnegie, he thought the market was infinitely elastic, that is, you could always sell all you could make if you cut the price enough. These attitudes contrast strongly with those of more modern industrialists such as James B. Duke of American Tobacco, who built an empire selling a product that no one "needed" by persuading people that they wanted it, and Alfred Sloan, who restructured General Motors to produce a limited number of cars at various prices, based on costs, maximum return on investment, and advance estimates of market size at specific price levels. I hope to explore these contrasting views, their origins and implications in a future paper.

[30] My father, and his father before him, for example, would buy nothing but Fords, and probably would have done so had they been made of peanut butter. The number of such die-hards was astonishing, but not enough to keep the company abreast of the competition.

the complex problem of reconverting to peacetime production quickly enough to take advantage of consumer demand dammed up through four years of war.

To confront this task Henry Ford II, then 28 years old, had paper credentials that could only charitably have been called modest. Educated at Yale, he had switched from engineering to sociology because the former curriculum proved "too tough."[31] He had come home to Detroit in 1940 and gone to work in the plant, learning the business as a "grease monkey in the experimental garage and a checker in the dynamometer room." In 1941 he entered the Navy; in 1943 he returned to the company, where, like so many other Ford executives, he had no defined duties. Between his return in 1943 and his assumption of the presidency in 1945, young Ford, who declared himself "green and searching for the answers,"[32] apparently found much of what was wrong and pinpointed the source. Given his age and lack of experience, however, this knowledge scarcely qualified him technically for the necessary task of housecleaning and rebuilding.

What he did have, however, as he soon proved, were certain indefinable qualities. First, he had his heritage in the automobile business; he had been raised in it and had never expected to follow any other career. Detroit, where car-building is often called "a disease, not a profession," considers no amount of technical skill or bureaucratic finesse adequate unless there is a dose of gasoline in the blood, and this Henry II certainly had. Second, he had a goal – perhaps a vision would have been a more apt description under the circumstances – of returning his company to its former pre-eminent position in the industry, while retaining it firmly as a family concern. Third, he had a clear view of his abilities and limitations. He at once set out to do the things he could and hire the right people to do the rest.

As a first step he fired Harry Bennett and his cronies, then rounded up a stable of loyal old Ford hands such as Meade Bricker, Jack Davis, Ernest Kanzler, and John Bugas to advise him and to begin the job of shoring up the structure. Reaching outside the organization, he engaged Earl Newsome, a public relations specialist, and Elmo Roper, the public opinion poller, to aid in the task of restoring the company's image. None of these, however, could tackle the most pressing task, that of installing a cost accounting system, analyzing the results, and applying tourniquets to the hem-

[31] *Fortune*, May, 1947.
[32] *Ibid.*

orrhages. What Ford Motor Company needed was a system like General Motors', and to get it Ford recruited a team of GM-trained executives. First came Ernest Breech, who left the presidency of Bendix Aviation to become, first, Ford's Executive Vice-President, and then President when Henry Ford II became Chairman of the Board. Breech and Ford then recruited Harold Youngren as chief engineer, Lewis Crusoe to handle finance, and Del Harder to take charge of production.

Crusoe at once set out to discover the company's costs, and soon determined that they added up to a loss of $62 per car sold, an average of $10,000,000 a month in the first half of 1946. Even this figure was an estimate, as the company's staff, unaccustomed to furnishing the necessary information, had to be retrained to the new policy. This took some time, so for many months Ford and Crusoe had to continue to rely on cash balances as the ultimate gauge of the company's fortunes.

As component costs became accurately quantified, Breech's team assaulted them across the board by revamping the company's plant with a dedication that Carnegie would have relished – spending $4,000,000,000 between 1945 and 1962 – and by using comparative cost data to demand improved performance from management. By the end of 1946, the company had returned to a profit-making basis, although it was not until 1952 that Breech felt confident enough of the company's hold on costs to contemplate with equanimity the possibility of a price war with Chevrolet. By the time Breech retired in the summer of 1960, the company had become a solid, consistent profit maker, and had regained the number two position in the industry, even outselling Chevrolet in 1957 and 1959.[33]

By the time Breech departed, the company's top echelons had become the province of a new generation of Ford executives. Some of the new men came from the ten so-called "Whiz Kids" who had joined Ford Motor as a team from the Army Air Force's statistical control unit after World War II. These included Robert McNamara and Arjay Miller, Breech's two immediate successors as President, and J. Edward Lundy, currently an Executive Vice-President. More important, Breech's retirement signaled the end of Henry Ford II's self-imposed apprenticeship at the head of his own company. As Breech himself said, "Henry doesn't need me any more." [34] Even before Breech's departure, Ford had taken an active part in his company's affairs, not only in broad policy-making, but also at

[33] *Ibid.*
[34] *Fortune*, February, 1962.

as they might be, such organizations had horizons too limited to deal with "the day [which] might not be far off when organizations even of the scope of North America and Europe will prove too limiting."[38] Furthermore, the national companies' facilities, all but a few of which were located in the industrialized countries of the world, could not hope to penetrate the potential markets of the underdeveloped world, where the people, "deeply committed to fast industrialization" demanded local manufacture or assembly as a prerequisite for doing business. "Whether we like it or not," Ford declared in 1961, "Africa, Latin America, and Asia are going all-out into the industrial age. . . . If we want to share in those markets, rich and vast as they will someday surely be . . . we are going to have to go in with our tools and know-how and help them get the things they want."[39]

In these statements and others, Ford revealed that he was more than a parochial American industrialist; he was an internationalist who saw the whole world as a potential market for Ford products. Widely traveled in the service of the company (he made trips to Europe in 1948 and 1952, and frequently thereafter traveled around the world to the company's facilities), he broadened his perspective as an alternate delegate to the United Nations in the early 1950s. Robert McNamara, speaking not only of his experiences with Ford at the company but also as head of the World Bank, declared, "there's no doubt that he's one of the best informed businessmen in the U.S. on the rest of the world."[40]

Like his grandfather's, Ford's world view envisioned a global market for automobiles; not a market in which American manufactures could plunder less fortunate peoples, but rather one in which American industry stood to benefit from worldwide industrial prosperity in a climate of free trade. In the 1920s the elder Ford said, "We ought to wish for every nation as large a degree of self-support as possible. Instead of wishing to keep them dependent upon us for what we manufacture, we should wish them to learn to manufacture themselves and build up a solidly founded civilization."[41] Forty years later, his grandson called upon American firms "to go in with our tools and know-how and help them get the things they want." He had already publicly advocated free trade in an industrializing world: "I believe this country should step forth boldly and lead the world toward freer trade. . . . We need competition the

[38] *Ibid.*
[39] Quoted in Wilkins and Hill, *American Business*, 414.
[40] *Fortune*, May, 1973.
[41] Quoted in Wilkins and Hill, *American Business*, 153.

world over to keep us on our toes and sharpen our wits. The keener the competition, the better it will be for us. . . . People cannot keep on buying from us unless we buy from them, and unless international trade can go on, our business will stagnate here at home.[42]

In the 1960s Ford transformed the structure of his overseas affiliates according to his philosophy of maximizing the advantages of free trade and penetrating markets in the underdeveloped world by creating local manufacturing facilities. Specifically this resulted first in the coordination of Ford of England and Ford of Germany by Ford of Europe, and a unified product line and design to optimize the advantages of the emerging European free trade communities; and second, in the creation of Ford Asia-Pacific (FASPAC) to develop and produce vehicles for the southeast Asian market including, if possible, Japan. Both organizations embodied a heavy dependence on a policy (called "complementation" by Ford Asia-Pacific) of cross-hauling components from specialized parts plants in various countries to strategically located assembly plants.[43] Both organizations resulted from plans prepared by the Ford staff at Henry Ford II's instigation. He accepted the plans not because they offered the only alternatives (both General Motors and the Japanese manufacturers employ a different method), but because they combined the prospect of profit with a company structure consonant with his personal beliefs.

In implementing the plans for global organizations, the company benefited from steps already taken by its chairman. In 1948, Ford had instructed his overseas subsidiaries to sell world-wide in any market they could find. During the 1950s he began buying up the affiliates' stock, much of which had been sold to local investors during the 1920s. By 1962 the parent company owned 75 per cent of Ford of Canada, 99 per cent of Ford of Germany, and 100 per cent of Ford of England. In 1961, already sure of unquestioned control of the subsidiaries, he took further steps toward an integrated global structure, stepping up overseas investment so that for the first time it exceeded domestic capital expenditure, and informing his subordinates that: "In order to further the growth of our world-wide operations, each purchasing activity of the Company or an affiliated company should consider . . . sources of supply not only in its country but also sources located in other countries."[44] To break

[42] Quoted in *ibid.*, 404.

[43] Ford's global plans also include the integration of extensive facilities in Latin America, but space precludes discussing them here.

[44] Quoted in Wilkins and Hill, *American Business*, 423.

down local resistance to the new policies, Ford dispatched American executives to key posts abroad. In 1962, for example, Americans headed eight of the twelve European sales, assembly, and manufacturing companies.

In Europe, Ford of England and Ford of Germany were in effect super overseas operating divisions by 1966, still functioning highly autonomously although plugged into the Dearborn staff for technical assistance. Each company produced a wide range of vehicles that duplicated and competed, but that used no common parts. Each company operated profitably and gave Ford Motor a viable entity in each of the European free trade groups, the Common Market and the European Free Trade Association (EFTA); nevertheless, Henry Ford II found this arrangement wasteful and inadequate. He accepted a staff plan of reorganization and authorized Ford of Europe to coordinate the integration of the European companies into a single unit, producing a single line of cars assembled from common parts flowing from all over the region.[45] "Implicit in this change," he said, "was a growing recognition that the entire Company needed to think more and more in world-wide terms and that the foreign subsidiaries no longer could be thought of as a collection of individual national organizations. This was particularly true of Europe, where eventual expansion of the common market seemed certain to require a strongly integrated approach." [46]

In the years since 1967, Ford of Europe has moved steadily toward its goal of a product line built of nationally interchangeable parts. In doing so it has adhered to the original assumptions on which the plan depended: that the European vehicle market would expand, that the Common Market would survive and incorporate Britain and the rest of EFTA, and that European consumers would accept cars that had no local national identity. Manufacturing has become more decentralized with the construction of single-product plants such as a transmission plant in Bordeaux, France. Parts flow from these works to an expanding network of assembly plants in Europe; the plants ship engines and transmissions to Asia and the United States and supply, for example, major components for the American Pinto, fulfilling Ford's contention that "the entire web of components and end products [will] become increasingly multinational." [47]

[45] The original document (called the "Learned Report"), outlining the various strategic alternatives including the one recommended and adopted, is part of the materials supplied to me by the Company.
[46] "Ford's Remarks at IBM."
[47] *Ibid.*

Such a complex restructuring of going concerns has, of course, met many obstacles, such as national pride, the integration of metric and English systems of measurement, shortages of components resulting from labor disputes (particularly in Britain), and product defects (especially in quality-conscious Germany), and the structure has had to be modified accordingly. The company has persevered with its original plan, however, and has maintained its position, first achieved in 1965, of leading the world in sales by U.S. companies outside North America. Overall results seem to have justified Ford's determination to create a single European company despite the objections of many of his subordinates. For example, Sir Patrick Hennessy, who headed Ford of Britain, strongly resisted the plan, but later admitted "He [Ford] was right and I was wrong." [48]

In Asia, Ford confronted a very different set of circumstances. The region's huge population constituted an enormous potential market, but its low income levels rendered an effective demand too small to justify the establishment of self-sufficient national companies on the Ford of England model. Unfortunately for United States manufacturers, this sort of commitment was just what the governments of many of the region's emerging states demanded. Ford Asia Pacific's answer was the "Complementation Plan" presented to Henry Ford II in February, 1971. In this plan the company would combine its existing Asian facilities with a set of local manufacturing plants to be constructed around the region, each producing parts consonant with the local level of technology and labor skills, and shipping them to assembly plants throughout the region, much as Ford of Europe did. The more sophisticated components could be drawn from the company's sources in Australia, New Zealand, and Europe until such time as Asian markets and technical capacities justified their local production.[49]

Complementation offered an attractive inducement to local governments in the form of large capital expenditures, increased employment in local manufacturing establishments, both Ford's own and home-owned supplier companies, and the development of trained native supervisory and labor forces. Ford approved the plan, both because it promised profitable market penetration at an early stage of regional development, and because it squared with his view of the appropriate American role in developing industrialization.

[48] *Fortune*, May, 1973.

[49] "Ford Asia-Pacific 1980 Plan: Presentation to Mr. Henry Ford II at Melbourne Australia, February 2, 1971." Ford Motor Company document.

The plan has moved forward slowly, beset by the difficulties inherent in a region of so many different languages, cultures, tastes, business conditions, and governments. Dealing with these problems requires massive staff work. The FASPAC handbook on "Regulatory Issues," for example, which outlines government regulations relevant to Ford Motor, runs to some sixty pages and is revised almost daily. Labor relations require D. L. Blue and his FASPAC industrial relations staff to "translate Article 1 of the Company's United Auto Workers Agreement in the United States into all the languages and customs of Asia."[50] Advertising has to be not only multi-lingual, but tailored to local tastes and the available media. Market forecasting, so essential to success, particulalry in a developing market, demands novel approaches in a region where the company often supplies statistics on population and vehicle ownership to the local governments rather than vice-versa.[51]

Finally, producing vehicles demands complex coordination, even for the simplest prototype. Ford's Fiera, designed to be the "Model T" of Asia, consists basically of "a motorized tray on wheels" to which a variety of body parts (square, because rounded sheet metal parts cost more and require greater skills to produce than angular ones) can be bolted to create trucks, utility cars, or vans. Despite its simplicity, the Fiera embodies components from around the world. As assembled in Thailand (a relatively advanced country for the region), for example, it includes an engine from Taiwan, axles from Mexico, a steering gear from Japan, a transmission from France, and other parts from Australia, New Zealand, Canada, Germany, Britain, and local suppliers in Thailand.[52]

Whether the complementation plan will ultimately succeed remains in doubt. But the company has persisted, driven forward by the Chairman's faith in world development and in his company's destined role in that process. In Europe and Asia alike, his subordinates have often differed with him, as the large turnover in management personnel and their privately expressed dissatisfac-

[50] Interview with D. L. Blue, Melbourne, Australia, August 21, 1975. Article 1 of the Ford-United Auto Workers Agreement specifies the company's sole right to manage its affairs and the union's exclusive right to act as bargaining agent. Ford's international operations have historically tended to reflect rather than transcend local cultural and political conditions. Such behavior may characterize manufacturing multinationals more than other types. This possibility I also intend to explore in the future.

[51] Interviews with Ray Kennedy, Public Relations Manager, Ford Asia-Pacific (FASPAC), Doug Jacobi, Staff Director, Sales and Marketing, FASPAC, and W. N. Hartigan, Staff Director, Governmental Affairs and Direct Markets, FASPAC, Melbourne, Australia, August 14, 1975. (All Ford Motor Company personnel positions as of date of interview.)

[52] Interview with John Marshall, Staff Director, Manufacturing and Supply, FASPAC, Melbourne, August 14, 1975; "Fiera Sourcing with Thailand as an Example," Ford Motor Company document.

tions demonstrate. I found few, however, who doubted that the plan was his and that he would ultimately determine the company's course, regardless of his bureaucracy's advice. Henry Ford II has demonstrated in the past his willingness to vote "a majority of one" when he disagreed with his staff's proposals. In such an autocracy, some potential for the stifling of initiative exists; but, on the other hand, as one of the FASPAC staff told me, "The exciting thing about this Company is that if you come up with an idea, no matter how big, you know the money can be found, and you know who the man is that has to be convinced. In a situation like that, you can dream any kind of dream."

The ideas that have convinced Henry Ford to reshape his company's multinational structure have been those which not simply promised a profit, but have also comported with his view of the world and his company's role in it. Without doubt, while acknowledging his obligations to stockholders, employees, and the governments of the countries where the company operates, Ford sees it as *his* company; and its bureacracy, computers, and plants are the tools of his will. Whether his retirement will lead, like Carnegie's, to the end of Ford Motor Company as a personally dominated enterprise, or whether, like Howard Stoddard, he can pass it successfully to his son and thereby maintain its tradition, remains to be seen. In any case, his career demonstrates the enormous economic leverage that can be exerted by a determined, skillful individual who is master, not servant of his bureaucracy. By filling that role, Henry Ford II brought his company back from the brink of disaster to the top of the world, showing that one man can do in the world what Carnegie did in his country, and Stoddard in his state.

Conclusion

These three men ran different kinds of businesses across a century of time in domains ranging from state-wide to national to global. Their success, however, embodied several common factors. All of them saw a market opportunity and moved to exploit it. All of them retained a controlling ownership — Carnegie by means of his majority partnership, Stoddard and Ford through a controlling share of their firms' stock. Each of them exercised a centralized direction of his firm's policies, while creating a managerial bureaucracy that translated policy into decentralized control of operations, generated new ideas, and furnished a steady stream of information

that enabled the owner to evaluate the cost-effectiveness of policies and people.

It can, of course, be argued that few such family firms remain, and that the opportunity for creating them has dwindled. But such arguments were made long ago, before Watson at IBM, Linowitz at Xerox, Land at Polaroid, and many others appeared. That such firms continue to appear seems to me self-evident; that they make a disproportionate contribution to the development of new technology seems likely.[53] The question of how often it happens is a hard one to answer. Even harder is the question of how often it needs to happen for capitalism to survive. How many Carnegies did it take to "prove" the validity of the "American Dream"? Such people always constituted a tiny minority, but enough of them prevailed to rivet the dream of success into the American consciousness and fire the imaginations of men like Howard Stoddard. Enough individuals capable of turning bureaucracy to their own purposes continue to emerge to provide capitalism with a constant source of regeneration, confounding the expectations of Marx, Weber, Schumpeter, and others.

Bureaucracy, I think, has not inevitably obliterated the entrepreneurial spirit necessary to the maintenance of capitalistic business systems. In the hands of the right protagonists it has become an instrument to cope with the complexities of doing business in the modern world. Bureaucracy, then, has not inevitably proven the nemesis of the entrepreneur; it has rather become a necessary tool of his trade. The successes of men like Carnegie, Stoddard, and Ford, and the failures of so many others, demonstrate that the survival of the entrepreneurial spirit occurs because of bureaucracy, not in spite of it. Since such individuals and their institutions play so prominent a role in our past and present, and continue to provide a powerful impetus to capitalism, they seem to me worthy of determined study; and such study combines the realities of modern techniques of institutional and data analysis with the matchless excitement of traditional, personal history. People make institutions, and people's stories always have been and always will be the vital core of history.

[53] See for example Robert T. Averitt, *The Dual Economy* (New York, 1971).

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Experiment in Bureaucratic Centralization: Employee Blacklisting on the Burlington Railroad, 1877-1892*

As a personnel policy that would assure the country's rapidly expanding railroad system the best grade of employees, centralization of discharge data within a company and interchange of such data between companies struck some executives as a useful practice. Others disagreed and, as Professor Black shows, their wisdom prevailed. The problem centered upon reliability of such key operating employees as brakemen and conductors, and responded better to institution of controls that would minimize the two most important misfeasances: drinking on the job and petty embezzlement.

In the annals of American railroading the "blacklist" has long occupied a prominent place. As legend it has the romantic quality of Casey Jones or the dauntless hobo. As fact it was both a potent political issue and an object of legislation. In the context of recent scholarship one might suggest a third perspective. On the Chicago, Burlington & Quincy Railroad from 1860 to 1900, the blacklist was a significant feature of the institutional experimentation that accompanied the development of America's first "big business." [1]

The origins of blacklisting had an air of innocence. At the close of the Civil War, the Chicago office was deluged with able job applicants whom it could not employ. More from compassion than from calculation, general superintendent Robert Harris began referring them to "new" western roads in the process of construction. Gradually referrals became automatic. Occasionally Harris

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[1] The basic source for this study is the Chicago, Burlington & Quincy Railroad archives located in the Newberry Library in Chicago, Illinois. Unless otherwise specified, all unpublished sources are from that collection. Much of the collection has been catalogued in Elisabeth Coleman Jackson and Carolyn Curtis, comp., *Guide to the Burlington Archives in the Newberry Library, 1851-1901* (Chicago, 1949) and Herbert D. Werner comp., *Supplement of the Guide to the Burlington Archives in the Newberry Library* (Chicago; 1953). Reference numbers in notes refer to the common classification in these two guides.

called on other superintendents to refer workers to him. The result was a series of informal agreements among the superintendents of midwestern roads.[2]

In time, referrals would become a means of discipline. When employees could be gained through the offices of competing roads, what superintendent would accept a man without references? And if confidential lists of eligible employees could be circulated, why not a list of undesirables? As early as 1868, a former C. B. & Q. route agent seeking work in Kansas City charged Harris with "blackballing." The superintendent denied the charge: "I have no objection to your being employed at Leavenworth or elsewhere by any Co. desiring your services – Indeed it is not my practice to seek to influence other companies in the selection of their employees." [3]

Superintendent Harris was probably honest in denying the particular charge, but a confidential memorandum of September 1867 casts doubt on his denial of the practice. In reply to an inquiry from the superintendent of a competing line, Harris' secretary, J. M. Horton, noted: "The men discharged of whom we keep an account are almost all skilled workmen. Carpenters, engineers, boiler-makers, etc. who have only their own trade and are not likely to apply for work in any other capacity – It doesn't make much difference if an Irish section hand or track man is discharged. He will perhaps shovel dirt somewhere else just as well as ever – But if a man has been discharged from one shop and goes to another shop the fact becomes known and the influence on the men is bad." [4]

By November 1870, the policy had solidified. Trainmaster J. N. Harrington was directed to report at the close of each month the names of men discharged "for faults." The report was to be made regularly "whether there are any names or not – stating that there are none when such is the case." Copies of similar reports were to be furnished Harrington from other C. B. & Q. departments. No person listed was to be employed by any department in any capacity without the permission of the general superintendent.[5]

No sooner had Harris announced this policy than he began to retreat. In November 1871, Leo Carper, assistant superintendent on the C. B. & Q. in Illinois, and William B. Strong, assistant superintendent on the Burlington & Missouri River Road in Iowa, agreed to notify each other of all discharges. No employee fired from one company was to be employed by the other. Actually, the arrange-

[2] See Robert Harris to B. S. Henning, December 28, 1868, 3/H4.1.
[3] Robert Harris to J. F. Ball, April 13, 1868, 3/H4.1.
[4] J. M. Horton to J. Scheitten, September 21, 1867, 3/H4.1.
[5] J. M. Horton to J. N. Harrington, November 1, 1870, 3/H4.1.

ment was quite natural. The two roads were owned by the same investment group; their operations were coordinated; they anticipated merger. Nevertheless, Harris objected: "We do not wish to be used by other Roads, or to use other Roads as a means of upholding discipline, preferring to work out our own views in our own way and to hire men entirely upon their merits as we appreciate them, rather than upon the views of others." [6]

It was partly a matter of fairness. Sometimes "men of good character" were "unfortunate in being involved in some difficulty that seemed to demand their discharge." He considered his own judgment fallible and admitted often changing his mind. Yet he denied false modesty. "We are as often right as other people — This being the case, the impropriety of following other peoples' lead is obvious." While Harris would not prohibit Strong and Carper from having a purely private arrangement, applicable to their divisions only, he would not allow it to be construed as precedent. And he predicted that they would "experience such difficulties . . . as will make you desire to give it up." [7]

By 1876, a power struggle brought changes in policy. Robert Harris became president. His broadened executive responsibilities left little time for such relatively mundane issues as blacklisting. Moreover, Harris' position was weakened by a rivalry with C. B. & Q. vice-president Charles Elliott Perkins, representative of the Boston capitalists who controlled the Burlington. Strong, with Perkins' support, took Harris' old place as general superintendent. Strong had not been persuaded by Harris' arguments. "The fact being established by practice that a discharge from the line is final," he wrote in 1876, "has great weight with employees to make them attentive to business." In June 1876, Strong ordered division superintendents to resume the practice of exchanging monthly discharge lists. On several occasions he chastised superintendents for employing men discharged from other divisions. In November 1876, he virtually compelled Elijah Smith, receiver of the tributary Burlington & Southwestern, to honor C. B. & Q. blacklists. In February 1877, he took a major step towards institutionalization by organizing his office as a clearinghouse. Thereafter, division reports went directly to the general superintendent, where they were entered on a master list. A copy of the master list was then recirculated to the divisions. Each division superintendent was respon-

[6] Robert Harris to F. H. Tubbs, November 10, 1871, 3/H4.1.
[7] Robert Harris to Leo Carper, November 10, 1871, 3/H4.1.

TABLE 1

NUMBER OF BURLINGTON SYSTEM EMPLOYEES BLACKLISTED BY YEAR: 1877–1892

Year	# Listed	% of Total, 1877–92
1877	456	5.6
1878	364	4.5
1879	677	8.4
1880	627	7.7
1881	823	10.2
1882	695	8.6
1883	913	11.3
1884	809	10.0
1885	592	7.3
1886	492	6.1
1887	519	6.4
1888	458	5.7
1889	180	2.2
1890	210	2.6
1891	177	2.2
1892	101	1.2

Source: "Discharge List," Burlington Archives (33/1870 3.4), Newberry Library, Chicago.

sible for keeping his own list up to date and for checking new employees against it.[8]

Before Strong left the C. B. & Q. in December 1877 to become vice-president and general manager of the Santa Fe, he had established an institution that was to last for sixteen years. During the period from February 1877 through June 1892, 8,093 names would be entered.[9] [See Table 1.] The volume of activity varied over time. Starting at 456 entries for 1877, it increased to 913 for 1883. The 1884 volume held at 809. After that, declines were consistent and sharp – to 592 in 1885, 458 in 1888, 210 in 1890, and 101 in 1892.

It is appropriate to ask whether the rate and pattern of employment growth had any effect on blacklisting activity. The Burlington's average employment level for 1877 is not known. But according to the Illinois State Railroad and Warehouse Commission the 1878 average was 9,904. Burlington Voluntary Relief Department totals for 1892 yield an average of 33,064. Much of the growth came

[8] William B. Strong to Harold Hitchcock, June 8, 1876 3/S8.2; William B. Strong to T. J. Potter, August 7, 1876, 3/S8.2; William B. Strong to Elijah Smith, November 4, 1876, 3/S8.2.

[9] Calculations regarding the C. B. & Q. blacklist were made from a computer data base constructed from 33/1870 3.4.

through mergers — the Burlington & Missouri River Road in Nebraska (1880); the Kansas City, St. Joseph & Council Bluffs (1880); the St. Louis, Keokuk & Northwestern (1881); the Hannibal & St. Joseph (1883); the Chicago, Burlington & Northern (1890). Of 23,160 new positions less than 23 per cent came from growth on the original lines. More than 30 per cent can be attributed directly to mergers; nearly 47 per cent, to employment growth on new lines following merger. It might be expected that central management would have relatively less control over personnel policy on newly-merged lines. On the Burlington & Missouri River Road in Nebraska, for example, it was not until 1883 (three years after merger) that local officers made significant contributions to the systemwide blacklist. On each of the Missouri lines, however, activity began within a year of the merger date. Once systemwide blacklisting began, local managers apparently practised it more intensively than on the original Illinois and Iowa lines. Had it not been for this relatively heavy activity in Nebraska and Missouri in the mid-1880s, system totals would have declined more precipitously.[10]

For most parts of the system, available statistics allow us to relate the number of employees blacklisted to the size of the work force. On C. B. & Q. Lines East (Illinois and Iowa) the ratio for 1878 was 3.68 to 100 man-years of employee service. In 1879 it rose to a high of 5.99. By 1892 it had dropped to .21. On the Burlington's Missouri Lines, the ratio was 4.69 in 1882, 6.18 in 1883, and 4.87 in 1884. Thereafter (except for 1888), it was generally less than two blacklistings to one hundred man-years. For the Burlington & Missouri River Road in Nebraska, information for early years is especially hard to get, but, using the Nebraska State Census, it is possible to calculate the 1884 ratio at 5.43. By 1889 it was .69.[11]

Activity began and peaked in different years on different parts of the system. In Illinois and Iowa (the oldest parts of the line) it

[10] *Report on the Agencies of Transportation in the United States*, Volume IV of the *Tenth Census of the United States* (Washington: Government Printing Office, 1883); quarterly reports of the Burlington Voluntary Relief Department, 1889–1901, Pension Department, C. B. & Q. Office Building, Chicago.

[11] Statistics in this paper relating to the size and composition of the work force in Illinois, Iowa, and Missouri were abstracted from: State of Iowa, *Annual Report of the Board of Railroad Commissioners* (Des Moines: State Printers, 1878–1900); State of Illinois, *Annual Reports of the Railroad and Warehouse Commission* (Springfield: State Printers, 1874–92); State of Missouri, *Annual Reports of the Board of Railroad and Warehouse Commissioners* (State Printers: Jefferson City, 1874–1900). Nebraska statistics were derived from manuscript reports to the Nebraska State Census (1884) and to the Nebraska State Railroad Commission (1887–1900). These reports were stored in the C. B. & Q. Office Building, Chicago. General statements regarding the relative proportions of different occupational groups in the Burlington labor force are based on an analysis of manuscript annual reports of the Chicago, Burlington & Quincy Railroad Company to the Interstate Commerce Commission, 1890–1901, Auditor's Vault, C. B. & Q. Office Building, Chicago.

began in 1877. The Chicago Division had its most active year in 1882, the Galesburg Division in 1881, the Iowa Division in 1879. In Missouri on the Hannibal & St. Joseph it began and peaked in the same year, 1884. On the Kansas City, St. Joseph & Council Bluffs, 1881–1884 seems to have been the most active period; on the St. Louis, Keokuk & Northwestern there was one peak of activity in 1883–1884 and another in 1888. West of the Missouri River, systemwide blacklisting did not begin until 1883 and did not peak until 1886–1887.

Blacklisting by Occupational Categories

Although the C. B. & Q. blacklist included a wide range of occupational categories, its incidence was uneven. The highest-ranking officers to be listed are two roadmasters (relatively minor supervisers of track maintenance) of whom one had stolen money and supplies and the other was an alcoholic. General manager T. J. Potter was reluctant. "I do not believe it good policy to blacklist a man who has held the position of roadmaster," he declared in 1882, "unless they have committed some especially bad crime." [12]

Most often listed were operating trainmen. Of all entries between 1877 and 1892, brakemen and baggagemen accounted for 31 per cent; conductors for 8.6 per cent; enginemen and firemen for 10.4 per cent; switchmen, flagmen, and watchmen for 12.9 per cent. Cumulatively, these groups accounted for about 24 per cent of the work force and 62.8 per cent of all blacklist entries. [See Table 2.]

One should also examine the rate of blacklisting per 100 employee-years of service. In Illinois and Iowa (1880–1881), the overall rate was 4.87. But for brakemen and baggagemen, it was 18.58. For engineers, 6.71; for firemen and wipers, 9.01; for switchmen, flagmen, and watchmen, 9.68. Other groups had lower rates. Station agents were 1.43; telegraph operators, 2.45; track laborers, 1.81. Illinois statistics for 1883–1885 add further confirmation. With a rate of 2.46 for the entire labor force brakemen were 16.65. By contrast, station agents were 1.25; section foremen, .74; carpenters, .48; track and section laborers, .15; clerks, .11.

These patterns pose difficult questions. Why were operating trainmen in general – and brakemen in particular – listed so much more often? Brakemen were young, entry-level employees. They were subject to relatively high rates of turnover. They were better paid than track laborers, section foremen, stationmen, or unskilled shop-

[12] T. J. Potter to Henry B. Stone, November 19, 1882, 3/P6.1.

TABLE 2

NUMBER OF BURLINGTON SYSTEM EMPLOYEES BLACKLISTED BY OCCUPATION: 1877–1892

Occupation	# Listed	% of All Cases *
Clerks	50	.6
Station Agents	137	1.7
Other Stationmen	305	3.8
Enginemen	428	5.3
Firemen	410	5.1
Wipers	255	3.2
Machinists	227	2.8
Carpenters	93	1.1
Helpers	110	1.4
Blacksmiths	49	.6
Other Shopmen	466	5.8
Conductors	693	8.6
Brakemen	2471	30.5
Other Trainmen	52	.6
Switchmen	955	11.8
Flagmen & Watchmen	86	1.1
Section Foremen	195	2.4
Laborers & Other Trackmen	632	7.8
Operators & Dispatchers	361	4.5
All Others	126	1.6

Source: Galesburg, Illinois, "Discharge List," Burlington archives, Newberry Library, 33/1870 3.4.

Note: * Percentages are computed on the basis of 8093 cases. But since in eight cases the record indicated a second occupation, there are 8101 occupational entries.

men, but less than machinists, station agents, general office clerks, firemen, conductors, or locomotive engineers. The brakeman's job was important, for it determined the efficiency of operations and directly affected train safety. It was moderately skilled, physically demanding, and sometimes dangerous. Because he worked on a moving train, the brakeman came in contact with more employees (including officers) in a single day than did clerks or track laborers or shopmen. He could start a fight or miss his train in any of a dozen stations, and take a quick drink or buy a bottle in several saloons. His supervisor was the conductor, but for every conductor there were two or three brakemen — constantly in motion and distributed over the length of the train. Promotibility added to visibility. Top management — including Charles Elliott Perkins who then headed the Burlington — was specifically aware that brakemen were the raw material from whom conductors would be made. Many of the same things could be said of firemen, who, in fact, did have a discharge

rate significantly above the average, though much below the rate for brakemen. Most had entered the service as wipers. Perhaps more important, each fireman performed his service under the direct supervision of a locomotive engineer.

Nearly as striking as the high rate among brakemen is the low rate among track laborers. Perhaps the key is J. M. Horton's statement in 1867 that a discharged Irish section hand might "shovel dirt somewhere else just as well as ever." It is hard to believe that a track laborer was characteristically less inclined to drink whiskey or more disposed to do his duty than a brakeman. Admittedly, bad track could wreck a train. But it was the section foreman or gang boss who inspected track and supervised repairs. The track laborer bore relatively little responsibility.

Shop workers (especially machinists) had the advantage of pride in skill. They were older and more settled than brakemen. Their work was performed in one place. Characteristically, it was under the supervision of a single foreman. Obviously, there is no single explanation. Several factors – status, length of service, responsibility, skill, visibility, opportunity for wrongdoing – may have played a part. For each occupational group, the combination of factors and the relative importance of each appears to have been unique.

Causes of Discharge

Even more interesting than occupational distributions are the causes of discharge. Here, too, there is a striking pattern. [See Table 3.] Alcoholism was a factor in more than 29 per cent of all cases. Neglect of duty, the second most frequent cause, involved 14.36 per cent. More than 10 per cent were characterized as disobedient, 5.9 per cent as careless, 3.7 per cent as incompetent, 3 per cent as lazy, and 3 per cent as dishonest. Five per cent involved accident; 3.8 per cent, stealing from the company. In slightly over 4 per cent, the stated cause suggested a personality clash with the supervisor. "Insolence" and "insubordination" were the terms most often used. Nearly 3 per cent were listed for fighting. Two and one-half per cent were garnisheed or had the reputation of not paying bills.

Because of traditional conceptions of blacklisting, strikes deserve special attention. Over a sixteen-year period, 394 men (4.9 per cent of the total) were blacklisted for striking or for agitating or for sympathizing with strikers. Of these, 134 (about a third) were fired in the railway strike of 1877. Another 52 (mostly switchmen

Table 3

Number of Burlington System Employees Blacklisted by Cause of Discharge: 1877–1892

Cause of Discharge	# Listed	% of All Cases *
Liquor	2367	29.25
Neglect of Duty	1162	14.36
Disobedience	826	10.21
"No Good" "No Account"	830	10.26
Stealing	306	3.78
Careless	481	5.94
Incompetent	300	3.71
Accident	408	5.04
Striker or Agitator	394	4.87
Fighting/Making Disturbance	227	2.80
Personality Conflict	334	4.13
Reason not Specified	19	.23
Lazy	239	2.95
Garnisheed/"Dead Beat"	204	2.52
Gambling	17	.21
Damage to Equipment	69	.85
Former Record/Blacklisted	61	.75
Rough Language	1	.01
Witness Against C. B. & Q.	8	.10
Disease/Dirty	7	.09
Immoral Conduct	62	.77
Lying	244	3.01
Robbing Tramps	1	.01
Arrested	34	.42
Under Age	5	.06
Rejected by Bonding Company	9	.11
Physical Deficiency	9	.11
Suspended and Quit	8	.10

Source: Galesburg, Illinois, "Discharge List," Burlington archives, Newberry Library, 33/1870 3.4.

Note: * All percentages are computed on the basis of 8093 cases. In 534 cases a second cause of discharge was indicated. In five cases there was a third cause. There are therefore 8632 cause of discharge entries.

and truckmen) were fired in two relatively minor disturbances in 1881. Of the 61 men blacklisted for striking in 1887, 42 were switchmen. During the Great Burlington Strike of 1888, the company made a policy decision not to blacklist striking engineers. A number of non-engineers (mostly brakemen) were listed for sympathizing with or giving aid to the strikers.

As the stated cause of nearly one-third of all blacklisting, alcohol appears to have been the company's leading discipline problem.

Top management would have agreed. In 1884, president Perkins concluded that superintendents did not take the problem seriously enough. The reinstatement of a known drunk, he declared, weakened discipline. Admittedly, some could be saved. But a business with more than 24,000 employees had no time for exceptions. Only a "firm and uniform course with all we find guilty" would mitigate the evils of drink. General manager T. J. Potter was more tolerant. "We have got to recognize that men do drink, some only occasionally and not to hurt them, while others drink to excess." He challenged the idea that the road had grown too large to treat employees as individuals. So long as the company expected men to show an interest in the business, it must, through its officers, show an interest in them. Sympathy was often good policy, especially in the case of a first mistake. "Very severe rules," he warned, "often disorganize an army." [13]

In a rebuttal Perkins stood firm. No man who had ever been found drunk, *on or off duty*, should be employed in any connection with the running of trains. A man discharged for drunkenness, whatever his job, "should never be reemployed on any road owned by this Company." Where it was "important to inflict severe penalties," local officers should have no discretion. "I do not suppose deserters would ever be shot in the army," argued the president, "if it was left optional with the captain of the company from which they deserted." [14]

Potter referred the issue to a general meeting of all superintendents. At first, Perkins wanted to appear personally to continue the debate before the group, but the general manager tactfully suggested that their presence might inhibit discussion. The president finally agreed to send a short-hand man, "to get each superintendent down on paper." [15] Following the meeting, Perkins and Potter worked out a formal memorandum harmonizing their views with those of the superintendents. It was a victory for local authority:

1. Men known to be in the habit of becoming intoxicated shall not be taken into the employ of this company.
2. Station agents, train and engine men, and telegraph operators who are known to visit drinking places, shall be warned that they must stop it at once, if they desire to remain in the service of the company, and if they persist, shall be discharged, and shall not be employed again without the consent of the general manager.

[13] C. E. Perkins to T. J. Potter, March 3, 1884, 3/P6.36, No. 5; T. J. Potter to C. E. Perkins, March 5, 1884, 3/P4.56, No. 2.

[14] C. E. Perkins to T. J. Potter, March 6, 1884, 3/P6.36, No. 5.

[15] T. J. Potter to C. E. Perkins, March 14, 1884, 3/P4.56, No. 2; T. J. Potter to H. B. Stone, March 20, 1884, 3/P6.13.

3. Station agents, train and engine men, and telegraph operators known to have been drunk, either on or off duty, shall, as a rule, be discharged. In special cases, and when it is a first offense, superintendents and master mechanics may, however, use their discretion, but if the same man is found drunk the second time, he must be discharged.
4. No person discharged for drunkenness shall be employed again without the consent of the general manager.[16]

The results of Perkins' campaign are reflected in the blacklist. Operating trainmen were hit hardest. Switchmen – who constituted less than 6 per cent of the work force – accounted for nearly 20 per cent of all alcohol-related discharges. Brakemen, with slightly more than 6 per cent, contributed nearly 32 per cent. Telegraph operators and dispatchers (about 2.5 per cent of the work force) had nearly 7 per cent. In contrast were the track laborers (19.67 per cent of the work force and 3.1 per cent of the discharges) and shop workers (25-30 per cent of the work force and 4.2 per cent of discharges). In the late 1880s, as the overall level of blacklisting declined, whiskey-related discharges made up a larger and larger proportion of the whole. Until 1883 they were generally about 20 per cent. In 1885 they were 35.8 per cent; in 1888, 57.4 per cent; in 1890, 74.8 per cent; in 1892, 80.2 per cent.

Notwithstanding these mounting proportions there is reason to question the campaign's ultimate effect. In July 1890, a newspaper reporter asked what the Burlington's rules were regarding drinking. Before responding Perkins canvassed his general managers. All reported strict, vigilant, continuing enforcement. On February 26, 1902, however, a tiny Colorado newspaper told a different story. The Burlington, said the *Victor Daily Record*, had begun a new campaign against liquor. Previous enforcement had been spotty and directed only against trainmen. The new drive would involve all employees – "even the track, bridge, and building departments." [17]

Since stealing was a stated cause in only 3.8 per cent of all cases, one might consider it unimportant. Yet president Perkins, in an executive memorandum of 1884, identified alcohol and stealing as the two greatest problems of railway discipline.[18] Statistically, stealing accounted for only about 13 per cent as many discharges as alcohol. It was basically a matter of visibility. To the extent that the alcoholic lost control of his faculties, he was unable to conceal

[16] Memorandum, May 22, 1884, 3/P6.36, No. 5.

[17] H. K. Cowell to C. E. Perkins, July 16, 1890, 3/P4.5, Series 2, No. 5; T. S. Howland to all managers, July 28, 1890, 3/P4.58.

[18] Memorandum, March 15, 1884, 3/P6.36, No. 5.

his transgression. But there was nothing about larceny that dulled one's senses.

It was essentially a crime of opportunity. Shopmen and trackmen might take coal or supplies on a casual basis. But haphazard, occasional stealing was hard to detect. Numerically, they made up an insignificant proportion of discharged thieves. The real culprits were those who handled money. Conductors with about 3 per cent of the work force contributed 26.8 per cent of all stealing discharges. Station agents with less than 4 per cent contributed nearly 10 per cent. Brakemen, who often collected fares on trains (sometimes without authorization), had proportions of 6 per cent and 20 per cent respectively.

There was an iron-clad rule on the Burlington: "No man who is known to have been guilty of stealing, shall be employed anywhere in the service upon, or in connection with, any railroad owned or controlled by this company." [19] It was a rule that no one questioned. But in March 1884, C. E. Perkins began to suspect that it was not always enforced. In the early 1880s, Jim Bump had been a popular conductor on the Iowa Division. He knew T. J. Potter and Henry B. Stone and had a friendly relation with Perkins himself. But he began to drink and to hold back collections. Discovery was cataclysmic. He lost his job, he was blacklisted, valued personal associations were shattered, and his family was shamed. We next hear of Bump in Coolidge, Arizona Territory, where he had reformed and taken a job on the Western Division of the Atlantic & Pacific Railroad. But for Bump's family Arizona was a cultural wilderness with no schools for his children, and his wife longed to return to Iowa. In March 1884, Perkins read in the *Burlington Hawkeye* that Jim Bump would resume his old run on the C. B. & Q. Unable to believe it, he wrote to general manager Henry B. Stone for an explanation. Stone replied that he and vice-president Potter had talked the matter over and had decided to give Bump another chance. Under pressure from Perkins, Stone and Potter cancelled Bump's reinstatement, and the poignancy of the situation is apparent in a letter from Perkins to Bump. "Everything you say appeals to my personal sympathy . . . I believe that it is your intention to do right hereafter . . ." Nevertheless, duty to the company made reinstatement out of the question. "You did wrong here; and you have been severely punished; you must now work out your salvation somewhere else." [20]

[19] *Ibid.*

[20] C. E. Perkins to T. J. Potter, March 3, 1884, 3/P6.36, No. 5; C. E. Perkins to T. J. Potter, March 5, 1884, 3/P6.36, No. 5; T. J. Potter to C. E. Perkins, March 4, 1884, 3/P4.56; J. M. Bump to C. E. Perkins, February 4, 1885, 3/P4.5, Series 1, No. 2; C. E. Perkins to J. M. Bump, February 13, 1885, 3/P4.1.

Blacklists as Monitors of Lower Management

Blacklists are usually thought of as a mechanism to be used *by* management for the control *of* labor. But in an organization the size of the Burlington, they had an important secondary function. They were a source of information to be used by upper management in monitoring the activities of lower management. It is not suggested that there was any conscious move to centralize disciplinary responsibility, the location of which was clearly defined in Perkins's memorandum on "The Selection of Employees" (May 1, 1885): "Local superintendents, master mechanics, trainmasters, roadmasters and foremen must have authority over their men to secure proper discipline; and, to that end, they must have absolute power to dismiss from the service. Men may be dismissed for inefficiency or bad conduct, or for the reason that they are not needed, or because they are not in a general way satisfactory to those in authority over them."[21] But if the authority of the local officer was unassailable, his job tenure was not. The proper remedy for bad judgment or injustice, thought Perkins, was not to weaken the officer's authority, but to dismiss the officer.[22]

Regardless of how Perkins tried to conceal it, his remarks betrayed a basic insecurity of Burlington management. The case of Charles Francis Jauriet, superintendent of motive power from the 1850s to 1872 is illustrative. A dozen important patents bore his name, but as early as 1868, Robert Harris was uneasy about the way he handled men. In 1872 a young engineman named Thorpe claimed he had been fired for refusing to contribute to buy Jauriet a present. Harris demanded an explanation, and when Jauriet refused, he reinstated Thorpe. As a result, the superintendent of motive power resigned. Harris prohibited all such assessments for the future. His memorandum was still in force in 1900.[23]

Others recorded similar problems. In 1876 William B. Strong warned the master mechanic at Aurora that foremen must treat subordinates "*fairly* and as *men*" (emphasis in original). "Persecution for private or personal reasons we cannot allow." Four years later, a division superintendent complained about a foreman on an extra gang. "He finds fault and grumbles all the time and does not allow the men to talk during working hours." Discipline "ought not

[21] Memorandum, "The Selection of Employees," May 1, 1885, 3/P4.56, No. 4.
[22] *Ibid.*
[23] Robert Harris to H. Hitchcock, December 7, 1868, 3/H4.1; Robert Harris to C. F. Jauriet, June 20, 1872, 3/H4.1; Robert Harris to C. F. Jauriet, June 19, 1872, 3/H4.1.

to be overdone." T. J. Potter learned in 1883 that several passenger engineers had been disciplined for smoking on duty. "It is just such rules as these that make trouble and disturbance among our men." When C. W. Eckerson fired an engineer in 1885 for "being independent," the general manager intervened. No one had said anything about job performance. Independence, observed Potter, "perhaps is a pretty good trait." [24]

Regardless of such frustrations, there is no evidence that the blacklist was *designed* as a threat to lower management. But there are indications that it was *perceived* that way. Suppose that from a certain division there came, month after month, a long list of discharge entries: "careless," "incompetent," "insubordinate," "irresponsible," "no good." Might it not suggest that the superintendent lacked skill and judgment in dealing with men? And what if the discharges were justified? Did it not then reflect on the officers who hired those men?

Small wonder that in the early 1880s T. J. Potter found division superintendents unenthusiastic. He was constantly prodding them to get their lists in promptly. He frequently lamented oversights, omissions, and misspelled names. He was concerned that in making reports superintendents were not "explicit in giving the reason for discharge." "State it fully," he instructed one superintendent, "so that we will not get men on the list who should not go there." [25]

The list itself contains evidence of failure. In more than 10 per cent of all cases the record does not carry an identifiable reason. Often the designation is "no good," "no account," "worthless," or "useless." The abrupt decline of blacklist entries after 1886 in the context of a growing labor force is further evidence. There is no reason to suspect a decline in disciplinary activity. Nor did superintendents stop keeping records. But apparently they no longer reported most discharges to the Chicago office. From September 1888, for instance, through February 1891 the superintendent of shops at Havelock, Nebraska, kept a private discharge record. There were 94 cases. But only nine of those names appear on the system-wide list submitted by the Burlington & Missouri River Road in Nebraska.[26]

[24] W. B. Strong to William Wilson, May 27, 1876, 3/H4.1; W. C. Perkins to J. R. Hastings, July 5, 1880, 3/P5.1; T. J. Potter to H. B. Stone, February 14, 1883, 3/P6.13; T. J. Potter to H. B. Stone, April 29, 1885, 3/P6.13.

[25] T. J. Potter to W. C. Perkins, May 27, 1879, 3/P6.1; T. J. Potter to Joel West, July 18, 1879, 3/P6.1; W. C. Perkins to O. E. Stewart, June 4, 1880, 3/P5.1; T. J. Potter to H. B. Stone, September 4, 1880, 3/P6.1; T. J. Potter to E. Ryder, December 23, 1880, 3/P6.1; T. J. Potter to J. D. Besler, February 8, 1881, 3/P6.1; T. J. Potter to W. C. Perkins, February 8, 1881, 3/P6.1.

[26] This document was made available through the courtesy of Mr. J. N. Nemeth, Super-

The End of the Blacklist

It remained for another Burlington executive named Harris to deliver the final blow to a dying institution. In July 1892, George B. Harris (then second vice-president) received a circular from a road outside the Burlington system warning against "certain employees discharged for criminal practices." Harris took the occasion to write to each of the general managers and general superintendents. "I am opposed to 'Black Lists' and boycotts of all kinds," he declared, "and will not promote or permit them – or keep them on file when received from others." Monthly discharge lists were a waste of time. In employing men for responsible work, current references must always be required. References should be checked. In the case of discharged C. B. & Q. employees seeking work on other lines, he would provide letters "to the effect that their services were satisfactory or unsatisfactory and let it go at that." He was certain that the company would get better employees "by permitting and requiring good men to produce good credentials than by attempting to keep a blacklist of [the] dissolute and vicious." [27]

On the Burlington Railroad, the demise of the blacklist was not so much the death of an old era as the stillbirth of a new one. From the perspective of the worker, the threat was not centralized power but arbitrary power. The railway brotherhoods needed a central management authority with which to negotiate. Every major union negotiation from 1876 to 1900 involved disciplinary procedure. Management, too, had much to gain from central control. "I am not partial to the publication of laws for the government of employees," admitted Robert Harris in 1877. But if a "general scheme" would lead to "greater carefulness and less passion" in the exercise of disciplinary authority, it would greatly improve employee morale. C. E. Perkins, T. J. Potter, and George B. Harris all admitted abuse. They differed only on the extent. None denied a threat to the morale of the work force.[28]

Perkins would have answered that centralization had its own risks. "If officers and foremen must prefer charges and specifications," he

intendent of Shops, C. B. & Q. R. R. Co., Havelock, Nebraska. Computations have been made from a microfilm copy in possession of the author.

[27] George B. Harris to J. R. Hastings, July 21, 1892, H5.23; George B. Harris to W. F. Merrill, July 22, 1892, H5.23; G. W. Holdrege to George B. Harris, July 23, 1892, 33/1900 6.11; George B. Harris to G. W. Holdrege, July 30, 1892, H5.23; W. F. Merrill to George B. Harris, July 29, 1892, 3/H5.15; George B. Harris to G. W. Holdrege, October 4, 1895, 3 H5.23.

[28] Robert Harris to C. E. Perkins, December 11, 1877, 3/H4.4.

asked rhetorically in 1877, ". . . what becomes of your discipline?" Unless local authorities had the absolute power to hire and fire, how could they be held responsible for results? And yet even Perkins changed with the years. When his 1885 memorandum on "The Selection of Employees" was reissued in 1890, three crucial sections regarding discipline had been deleted. At least publicly he was no longer willing to assert the "absolute power" of local officials.[29]

When George B. Harris outlawed the blacklist in 1892, he was acting pragmatically. Justifying those entries in a court of law was a solicitor's nightmare. Anti-blacklisting laws in even a few states made it impractical on the Burlington as a whole. In a sense, it was a reactionary move – a move away from procedures and standards. The time was not far off when the internal cost of arbitrary power would weigh more heavily than the external threat of loss of control.

[29] C. E. Perkins to Robert Harris, December 15, 1877, 33/1870 3.6.

By William J. Hausman

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Size and Profitability of English Colliers in the Eighteenth Century*

Taking a fresh look at the factors bearing on profitability of carrying coal from Newcastle to London in the eighteenth century, Professor Hausman finds that average ship loads rose and technology improved during the period. He notes that this is consistent with Adam Smith's dictum that England's effort to monopolize the colonial carrying trade, through the Navigation Acts, would divert capital from domestic to colonial shipping, thereby raising rates of return in the former and lowering them in the latter.

In his book, *The Rise of the English Shipping Industry*, Ralph Davis estimates that the average net rate of return to a ship in the overseas trade (Virginia and Malaga) in the eighteenth century ranged between 1 per cent to 5 per cent per annum.[1] He admits, however, that "the voyage estimates do not . . . lay bare the secrets of profitability before the Industrial Revolution. All this argument has shown is that a variety of forces were working in different directions to keep shipping profits from moving far or fast; probably to keep them in line with those in similar fields of investment."[2] Yet, the rather low rate of return might suggest that this sector of the shipping industry was overcapitalized, which would indicate that the rate of return was not equivalent to that in similar fields of investment. In fact, Adam Smith had argued almost two centuries earlier that because of the monopoly of the colonial trades afforded by the Navigation Acts, there was a redirection of capital out of both domestic industry and other foreign trades into the colonial trade: "The monopoly of the colony trade too has forced some part

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[1] Ralph Davis, *The Rise of the English Shipping Industry* (Newton Abbot, 1972), 378-379. This was a substantial revision of his estimate of 20 per cent found in "Earnings of Capital in the English Shipping Industry, 1670-1730," *Journal of Economic History* (September, 1957).

[2] *Ibid.*, 382-383.

of the capital of Great Britain from all foreign trade of consumption to a carrying trade; . . . The monopoly of that trade besides, by forcing towards it a much greater proportion of the capital of Great Britain than what would naturally have gone to it, seems to have broken altogether the natural balance which would otherwise have taken place among the different branches of British industry." [3]

It is possible to conduct a limited test of this assertion by estimating the rate of return to colliers engaged in the Newcastle to London coal trade in eighteenth century, and then comparing this to the figures that Davis obtained for returns in the overseas trade (of which the colonial trade comprised a substantial element).

The transition from wood to coal as a source of energy for London's households and manufacturers was nearly complete by the beginning of the eighteenth century. Since there were no coal fields in the immediately surrounding area, a vigorous coastal trade had developed between London and Newcastle-upon-Tyne, the earliest and most productive coal-producing region of the nation. With the growth of the coal trade, the distributive process evolved into a sophisticated organization, with detailed specialization of function. The Newcastle mine owners operated through factors, known as "fitters," who acted as agents of the owners, and who sold coal to the ship masters. At London the ship masters sold to a group of coal factors known as "crimps," "lighter men," or "coal buyers," who then distributed the coal to other wholesalers, retailers, or large consumers. In spite of the fact that it was not uncommon for lightermen or mine owners to own shares in several ships, the shipping sector of the trade remained a distinct link in the chain of distribution.[4]

The coastal shipping industry was the most competitive aspect of the trade, and the ship masters' several attempts to control the market had never been successful. Ease of entry was one of the factors that made the industry competitive. Not only was it possible to fit out a new ship for the trade (although this was probably a rare occurrence, as the colliers were known as the dregs of the fleet),[5] but it was easy to switch over from the foreign coal trade to

[3] Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations* (New York, 1937), 570.

[4] For the holdings of John Gibson and William Williford, London lightermen, see Public Record Office, Treasury Papers T1/310 no. 12. They individually owned parts of nineteen ships.

[5] Ralph Davis stated: "The wooden ship, if well looked after and free from accident could have a very long life – so long, indeed, that one may suppose the majority of ships to have ended their lives violently and suddenly in storm or fire, rather than to have rotted through old age as colliers and hulks." "Earnings of Capital," 411. J. H. Parry had a better opinion of the collier. He stated: "Colliers had to be strong. They were solidly built of oak; their proportions were moderate; their tumble-home relatively slight; and they had robust transom sterns. They retained, on the other hand, some of the virtues of the *fluyt*: their full section (i.e., flat floor); their capacious, almost rectangular hold; their simplicity

the coastal trade,[6] if profits were deemed high enough to warrant it. In particularly difficult years, colliers could even be fitted out for the colonial trade. Raymond Smith notes that the *Cleveland*, which had been used as a collier in 1728 and 1729, was sent to Carolina in 1730.[7] Both contemporaries and modern historians have argued that one characteristic of the industry was severe overcapitalization.[8] If true, this should manifest itself in low returns on invested capital. At the same time, the first seventy years of the century were noted for certain improvements in the trade. The average capacity of the ships was said to have risen while crew size remained constant, thus signalling technological development.[9]

Evidence in sources located in the Corporation of London Record Office can help to explain several aspects of the nature and development of the shipping component of the coal trade. *The Collector's Returns of the Orphans' Duty* includes not only figures for coal imports, but also lists every ship (with master) that unloaded coal from the period 1694 to 1775 (with one month missing). By dividing yearly coal imports by the number of ships that entered the harbor (counting each entry separately), the yearly mean load per ship can be calculated.

A dramatic increase in average load occurred in the early 1720s and continued until 1750. From 1751 to 1757, there was a sharp decline followed by a gradual recovery. The large increase in average load occurred during a time when the volume of imports was not rapidly expanding, and the large drop, which began around 1750, bottomed out during the Seven Years' War. There are three ways for average load to be rising: either larger ships found the trade attractive and entered; smaller ships found the trade unattractive and chose to leave; or utilization of existing ships was rising. The nearly 50 per cent rise in average load between 1720 and 1750 appears to be too large to be attributed only to increased utilization, and can be explained, at least partially, by increased ship size. The increase in average load did not come from growth in the very top

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and economy of size. They had bluff bows and straight stems, with no beakhead and only a modest cutwater; they were built for strength and carrying capacity, not for speed, certainly not for looks. Their qualities were widely appreciated; when Cook used Whitby-built collier barques for his exploring voyages, no eyebrows were raised at the admiralty." *Trade and Dominion* (London, 1971), 282.

[6] John U. Nef, *The Rise of the British Coal Industry* (London, 1932), I, 85-86. See also John Stevenson, *Observations on the Coal-Trade in the Port of Newcastle-upon-Tyne* (London, 1789), 2. He asserted that ships frequently switched over from the Baltic and Archangel Trade to the coastal coal trade.

[7] Raymond Smith, *Sea-Coal for London* (London, 1961), 107.

[8] See Edward Hughes, *North Country Life in the Eighteenth Century* (London, 1952), 218, and Nef, *British Coal Industry*, II, 95-96.

[9] T. S. Willan, *The English Coasting Trade, 1600-1750* (Manchester, 1967), 16. See also Lawrence A. Harper, *The English Navigation Laws* (New York, 1939), 335.

end of the trade, however, as there were very few "super-colliers." The largest ships carried something over 400 chaldrons, or about 530 tons,[10] but there were never more than two or three of these plying the trade at one time. The *Herring*, which carried on trade between 1694 and 1702, and regularly unloaded between 420 and 440 chaldrons at London, was barely matched in size by any ship plying the trade between 1702 and 1770. The total number of ships participating probably exhibited neither dramatic increases nor decreases, so that the growth in average load per ship most likely came about as larger ships gradually replaced decaying, smaller ones, with a break in the trend due to the Seven Years' War.[11] During the war, larger ships were undoubtedly called into service by the navy (e.g., for use as troop supply ships).

What could be of critical importance to a master, representing the difference between profits and losses in most cases, was the number of voyages made per year and the utilization of capacity on each trip. It is difficult to trace a single ship through the *Collector's Returns*, unless it has some outstanding feature. For the late seventeenth and early eighteenth centuries, two ships were outstanding for their size: the *Herring* (George Eubank, Joshua Neatch, George Brown, and John Eubank, masters at one time or another), and *Owners' Adventure* (Henry Moore, master). Each carried over 400 chaldrons per voyage. For the years 1756–1760, a ship's *Alphabet* has been compiled. This volume cross-listed every entry from the *Collector's Returns* for those years by ship, so that it was very easy to pick out a particular vessel and see exactly how often it entered London and exactly how much coal it carried on each trip. It should be noted that the years covered by the *Alphabet* were during the early part of the Seven Years' War and may, therefore, be biased toward smaller ships and fewer voyages per year than would normally be the case.

[10] Imports into London were measured in London chaldrons, a unit of volume fixed by statute. It was made up of four "vats" of coal, the standard of which was kept at the Guildhall. By the eighteenth century, this was roughly equivalent to 26.5 hundredweight or $1\frac{1}{3}$ tons. The Newcastle chaldron was approximately twice the London chaldron. See Nef, *British Coal Industry*, II, 367.

[11] Willan, *Coasting Trade*, 14. Nef argued that the number of ships in the trade jumped from 400 in the mid-seventeenth century to about 1000 in the late seventeenth century. This increase was said to have come about from both native production and the fitting out of Dutch prizes. It is doubtful, however, that all 1000 were engaged in the coal trade. *British Coal Industry*, II, 95 96. Matthias Dunn noted that for 1703, "The Masters of the Trinity House asserted, that 600 ships, . . . with 4,500 men, were requisite for carrying on this branch of commerce, which they said was the rate for the last three years." *View of the Coal Trade* (Newcastle-upon-Tyne, 1844), 21. In 1800, the figure was put at 400 on average (never less than 300 nor more than 500). Great Britain, Parliament, House of Commons, *1800 Coal Committee Report*, 31. An estimate of 600 ships attached to the trade in 1757 was obtained by counting the ships listed in the *Alphabet* (Corporation of London Record Office) for that year. The exact number is not certain because "A" and "B" were missing and had to be estimated.

Table 1 presents the average number of trips per year and average cargo size for the two large ships in the early days of the century and a representative sample of ships later in the century. Several important points underlie this table. First, it was quite unusual for a ship to leave Newcastle without a full cargo.[12] The amount carried from trip to trip varied only slightly, as the relatively low standard deviations attest. Apparently, the masters were satisfied to wait in Newcastle for a full cargo, rather than to take only half a load and return early. Furthermore, the quickest round trip possible was about a month (with several of the smallest ships making the trip in three weeks on occasion), making twelve voyages the absolute maximum potential for the year. Of course, shipping was curtailed to a great extent during winter, so that the effective maximum potential number of voyages per year was probably closer to eight or nine.[13] Few ships made this many voyages per year. The average number of trips per year for this sample was just over four. The *Sea Adventure* of Whitby, a ship that appears to have been permanently attached to the London coal trade, averaged about seven trips per year (keeping in mind the fact that these figures were for war years). Ships entered occasionally as few as one time per year, suggesting either severe under-utilization or involvement in other trade routes for the balance of the year. These ships may well have been attached more regularly to another port's trade (such as King's Lynn or Great Yarmouth), or they may have been involved in the corn trade or even the foreign trade. It is clear, however, that a number of the ships specialized in the London coal trade. This would be expected, since contacts could be regularized, taking much of the uncertainty out of marketing.

Insights into profit conditions in the London coal trade are gained from accounts given of several collier voyages during the century. Most of these accounts were written as polemics during a controversy involving the trade, and as such needed to be analyzed carefully. The usual procedure was for the shipping interest to present an account of a typical voyage, showing a very low profit or slight

[12] The *Collector's Returns* indicate that there were in each month several ships which unloaded as little as one chaldron of coal. These were clearly not colliers, and may have been ships that took on coal in some port in lieu of ballast. The Newcastle hostmen pointed to one practice apparently utilized to avoid returning to London without a full cargo. " . . . Severall shipps did putt in att Sunderland and take in part of their loadeing of Coles there and then Come into this Port and take in the remaining part." F. W. Dendy, *Extracts from the Records of the Company of Hostmen of Newcastel-upon-Tyne* (Durham, 1901), 169.

[13] The coal trade was seasonal, with most ships laid up during Winter, but it was less so in 1770 than in 1700. For the first twenty years of the century, winter coal imports were about 6 per cent of coal imports during the rest of the year. From 1755 on, this figure fluctuated around 20 per cent.

Table 1

Average and Maximum Number of London Trips per Year and Average Cargo Size for Selected Eighteenth Century Colliers

Ship	Average Number of Trips per Year	Maximum Trips per Year	Average Cargo Size (chaldrons)	Standard Deviation of Cargo Size
Herring (1694–1702)	2.5	4	427	11.1
Owners' Adventure (1698–99)	3.0	3	443	17.6
Charming Betsey of Yarmouth (1757–58)	5.0	7	160	5.5
Crown of Yarmouth (1760)	6.0	6	312	17.3
Diamond of Whitby (1756–59)	4.5	8	171	6.6
Exchange's Increase of Sunderland (1758–59)	5.0	6	165	4.5
Fortitude of Scarbr° (1756–58)	3.7	6	374	7.3
George of Shields (1757–60)	3.2	5	206	10.2
Jn° and Sarah of Whitby (1756–59)	5.0	8	343	6.9
Industry of Shields (1760)	6.0	6	343	18.4
Margaret of Sunderland (1757–59)	3.0	4	137	5.7
Newark of Shields (1756–59)	5.5	8	146	14.1
Providence of London (1756–58)	2.0	3	257	5.4
Sea Adventure of Whitby (1756–60)	6.8	8	248	4.1
William of Whitby (1756–59)	2.7	5	138	2.8

Sources: London, Corporation of London Record Office, *Collector's Returns of the Orphans' Duty* and *Ships' Alphabet*.

loss. This account would then be attacked by another group involved in the trade, demonstrating a substantially larger profit to the shipper.

The first set of accounts is for the year 1729 and is in a pamphlet by Philalethes, *A Free and Impartial Enquiry into the Reasons of the Present Extravagant Price of Coals*. Philalethes first reproduced an account drawn up by the shippers; he then attacked several of its particulars. Table 2 reproduces the shippers' account with

Philalethes' emendations in the right-hand column. The total deductions from cost per voyage ascertained by Philalethes amount to about £40. Over half of this total was the charge for insurance. Philalethes even questioned the £7 per voyage he had originally acknowledged and eventually included this charge in the profits of the ship owners: "And reckoning the seven Pounds per Voyage Insurance, that I have allow'd, and must be divided to the Owners, as they seldom or never insure at all." [14] It is true that ship owners did not always insure, but this merely indicates that they accepted the risk internally. Insurance remains a legitimate cost, whether paid out of pocket or internally financed. The average price of coal in the London Pool for 1729 was 27 shillings per chaldron,[15] which would produce a revenue per voyage of £273 17s. The range of profit per voyage in that year would have been from £2 to £42, depending upon whose figures were believed. At eight voyages per year, a figure neither faction challenged, the total yearly profit would range from £16 to £336, or a net rate of return of from 1 per cent to 24 per cent based on a ship worth £1400.

TABLE 2

A TYPICAL ROUND TRIP COLLIER VOYAGE WITH EMENDATIONS, 1729

	Original £. s. d.	Emended £. s. d.
London:		
60 Tons of Ballast at 9d. per Ton	2 05 00	1 16 00
Heaving in the Ball at 3d. per Score	9 00	9 00
Clearing at Gravesend	1 00	1 00
Newcastle:		
Heaving out the Ballast	12 00	
One Keel and Boat Dues	1 01 04	1 12 04
2 Ballast Warrants	6 00	
Townhouse for delivering 30 Tons of Ballast as 10d.	1 05 00	
104 Ch. of Coals at 12s. per Ch.	62 08 00	62 08 00
13 Keel Dues at 13 s. 4d. per Keel	8 13 00	8 13 00
Trimming the Coals at 1s. per Keel	13 00	13 00
Coast Duty 1s per Ch. paying 8 for 15, made out at London, 110 Ch. and Ticket 6d.	5 10 06	5 10 06
Lights at 4½d. per Ch.	2 03 06½	2 03 06½
Low Lights and Buoys of Tine	1 02	1 02
Tinmouth Lights, Tease Buoys, Bridlington Pier	3 09½	3 09½
Townhouse Dues 5d. per Ch. and Ticket	2 06 10	1 03 05
Portage 104 Ch. at 6d. per Ch.	2 12 00	0 00 00
Help in and out of Harbour	10 06	0 00 00

[14] Philalethes, *A Free and Impartial Enquiry*, 29.
[15] See J. E. T. Rogers, *A History of Agriculture and Prices in England* (Oxford, 1902).

TABLE 2 (*continued*)

	Original £. s. d.	Emended £. s. d.
London:		
Bill, Cocket Fees, and Cocklegat	14 05	14 05
½d. per Ch. to the Lord Mayor	8 08	8 08
King and Church Duty at 8s. per Ch. and Bond	83 09 06	81 07 09
Metage and Orphans 14d. per Ch.	12 02 06	12 02 06
Crimps Commission	1 02 06	1 00 00
15 Coalheavers at 1s. per Score and Drinking Money	7 18 06	7 18 06
To the Lyghtermen 1s. per Score	10 06	10 06
Provision for 10 Men and Boys at 9d. per Day for a Mo.	11 05 00	7 10 00
Master's Wages	5 10 00	5 10 00
Mate and Carpenter's Wages	5 05 00	5 00 00
6 Men at £2 per Voyage	12 00 00	10 10 00
2 Boys at £1 5s. per Voyage	2 10 00	1 10 00
Insurance on £1400 Prime Cost for one Voyage at 2% and Policy (figure on right based on £700 at 1%)	28 04 06	7 00 00
Incidents and Common Repairs for a Month	9 10 00	3 05 00
Total Charge of the Voyage	271 13 01	232 02 05
208 Chaldrons of Coals at London at 22s. per Ch. 21 Ch. to the Score with 8d. per Ch. Metage	225 01 00	225 01 00
Balance *lost* by the Voyage	46 12 01	7 01 05
208 Ch. of Coals at London at 28s. per Ch. 21 Ch. to the Score with 8d. per Ch. Metage	284 05 00	285 05 00
Balance *gained* by the Voyage	12 11 11	52 05 07

Source: Philalethes, *A Free and Impartial Enquiry into the Reasons of the Extravagant Price of Coal*, (1729).

In 1738, a similar controversy arose. The shipping interest published an account of a coal voyage in the *Daily Advertiser*, and reprinted it as *The State of a Coal Voyage to and From Newcastle*. This account was attacked by the lightermen in a pamphlet, *The Account of a Coal Voyage in the "Daily Advertiser" Examin'd. With the Proper Deductions for Nine Voyages.*[16] The original account with emendations is reproduced in Table 3. The estimated yearly profit ranged from £83 to £353 (representing a 4 per cent–18 per cent return on capital).

It is possible to narrow somewhat the wide range of profit figures

[16] These have been reprinted in Willan, *Coasting Trade*, Appendix 5, with the wrong date attributed. I have reproduced the accounts here in a more convenient form for comparison.

in order to compute a rate of return for capital invested in shipping. The profit rate will be calculated in the following manner: subtract per trip out-of-pocket costs (cost of coal at Newcastle, labor and subsistence charges, incidental charges, and taxes) from per trip revenues (price times quantity of coal sold at London) to get gross returns per trip; multiply gross returns per trip by the number of trips per year to get gross annual returns; subtract annual costs (insurance, depreciation, and interest expense) from gross annual returns to get net annual profits; divide net annual profits by invested capital to obtain the profit rate.

TABLE 3

A TYPICAL ROUND TRIP COLLIER VOYAGE WITH EMENDATIONS, 1738

	Original £. s. d.	Emended £. s. d.
Newcastle:		
To 160 Chaldrons of Coals at 13s.	104 00 00	104 00 00
To 20 Keel Dues at 13s. 4d.	13 06 08	13 06 08
Duke of Richmond 1s. per Chaldron, with Ticket	8 00 06	8 00 06
Townhouse 5d. per Chaldron, and Perquisites	3 09 11	1 14 11½
Lights and Trinity-House Duties 7 3/4 per Ch.	5 03 04	5 03 04
Trimming	1 00 00	1 00 00
Primage for the Master	4 00 00	0 00 00
Beer for the Keelmen	1 04 00	6 00
Total	140 04 05	133 11 05½
Charges at London on 300 Chaldron: *		
King's Duty and Bond	117 05 06	117 05 06
Metage and Orphans' Duty	17 10 00	17 10 00
City Dues, Cocquet Fee, Entry and Return	1 09 06	16 06
Nore Light	4 00	4 00
16 Labourers at 14d. per Score, & Drinking Money	14 02 06	12 02 06
Beer for the Labourers	1 01 00	1 01 00
60 Tons of Ballast and heaving in	3 13 00	3 10 06
Commission ½%	1 19 06	1 19 06
Total	157 05 00	154 09 06
Incident Charges on the Voyage:		
Victuals	12 05 00	9 03 09
Clearing at Gravesend	2 00	1 00
Horse-Hire and Wherry-Hire at Newcastle	5 00	5 00
Charges on delivering Ballast	4 04 00	2 02 00
Nails, Shovels, and Port-Sails	15 00	0 00
Pilotage in and out	1 00 00	10 00
Candles	5 00	5 00
Total	18 16 00	12 06 09

TABLE 3 (*continued*)

	Original £. s. d.	Emended £. s. d.
Wages:		
The Master	7 00 00	6 00 00
Mate and Carpenter	5 10 00	5 05 00
Cook	2 00 00	1 15 00
Six Men at 35s.	10 10 00	9 00 00
Four Boys	3 00 00	2 00 00
Total	28 00 00	24 00 00
Total Charges on the Voyage	344 05 05	324 07 08½
By 300 Chaldron of Coals at 27s. and Metage	395 14 03	395 14 03
Raised by this Voyage	51 08 10	71 06 06½
Supposed to make nine Voyages every Year makes	462 19 06	641 18 10½
The common Wear and Tear of the Ship's Materials will require at least per annum	100 00 00	50 00 00
Interest on £2000 at 5%	100 00 00	100 00 00
Insurance at 1% per Month and Policy for nine Months	180 04 06	140 04 06
Total	380 04 06	290 04 06
Profit per annum	82 15 00	351 14 04½

Sources: *The State of a Coal Voyage*, (1738), and *The Account . . . Examin'd*, (1738).
Note: * The authors assume that 15 London chaldrons equal 8 Newcastle chaldrons.

The 1738 figures were chosen for closer examination, since they explicitly include depreciation and interest expenses, matters that Philalethes did not directly confront. Also, in the later controversy there was no disagreement concerning the value of the ship in question (one of above average size for the coal trade at that time), even though the lightermen asserted that the average ship in the trade cost about £1250.

The issues to arbitrate include whose set of operating cost estimates to use, what risk premium to attach to the trade, and what depreciation figure to accept. Once these issues are decided, the annual rate of return can be calculated.

The total difference between the two accounts in out-of-pocket costs per voyage is just under £20. For most of the items under this category it is not possible to choose one side over the other intelligently. For example, the shippers claimed that they paid to London coalheavers 14d. per score, while the lightermen claimed that the coalheavers were paid 12d. and sometimes 10d. per score. There

is simply not enough evidence to decide which figure was correct. In cases such as this, the mean of the two values was chosen. In several cases, however, a clear choice can be made. Regarding the item of victuals, the shippers claimed enough provisions for a month on the voyage, whereas the lightermen claimed that "when there is no Combination, Three Weeks is sufficient upon an Average." [17] They, accordingly, deducted one-fourth of the charge for victuals. It was extraordinary for a voyage to last less than a month, so that the lightermen's deduction in this case was not allowed. The shippers' claim of 15s. for nails, shovels, and port-sails was allowed as maintenance, rather than as depreciation, under which the lightermen subsumed it. These assumptions result in a figure of £335 14s. 5d. for per trip out-of-pocket costs. With the supposed nine voyages per year, and a price of 27 shillings per London chaldron, a gross return per year of £539 18s. 6d. would be realized (See Table 4).

TABLE 4
AN ADJUSTED ROUND TRIP COLLIER VOYAGE WITH ESTIMATED ANNUAL RETURN ON CAPITAL, 1738

	£. s. d.
Cost of Coal at Newcastle (160 Ch. at 13s):	104 00 00
Labor Charges:	
Keels at Newcastle	13 06 08
Trimming	1 00 00
Beer for Keelmen	15 00
Coalheavers at London	13 02 06
Beer for Coalheavers	1 01 00
Master's Wages	6 10 00
Mate and Carpenter	5 07 06
Cook, Men, Boys	13 12 06
Total	54 15 02
Incidental Charges on Voyage:	
Primage for Master	2 00 00
60 tons of Ballast and heaving in	3 11 09
Commission	1 19 06
Victuals	12 05 00
Clearing, Horse-, and Wherry-Hire	6 06
Delivering Ballast	3 03 00
Nails, Shovels, Port-Sails, and Candles	20 00
Pilotage	15 00
Total	25 00 09

[17] *The Account . . . Examin'd.*

TABLE 4 (*continued*)

		£. s. d.
Taxes:		
Richmond Shilling with Ticket		8 00 06
Townhouse, Trinity-House, and Lights		7 15 09
King's Duty and Bond		117 05 06
Metage and Orphans' Duty		17 10 00
City Dues, Cocquet, Entry and Return, Nore Light		1 06 09
Total		151 18 06
Total Costs of the Voyage		335 14 05
300 Chaldrons of Coal at 27s. per Chaldron and Metage		395 14 03
Gross Return per Voyage		59 19 10
Gross Return at Nine Voyages per Year		539 18 06
Depreciation at 5% per year		100 00 00
Interest Expense at 5% per year		100 00 00
Insurance at 5% per year plus Policy		100 04 06
Profit per annum		239 14 00
Annual return on capital	12%	
At risk of 1% per voyage, profit per annum is		159 14 00
Annual return on capital	8%	
At eight voyages per year (5% risk) profit per annum is		179 14 02
Annual return on capital	9%	
At eight voyages per year (1% per voyage risk) profit per annum is		119 14 02
Annual return on capital	6%	

Sources: See Table 3.

The replacement cost of the ship is assumed to be £2000, a fact that the lightermen accepted to make their calculations.[18] It should be noted that this was a ship of above average size, but by no means extraordinarily large for its time. Both shippers and lightermen accepted the interest charge of 5 per cent on £2000 as being reasonable. This figure also fits with Ralph Davis' figure for interest expenditure in the foreign trade,[19] and was adopted here.

Two items upon which a large disagreement occurred were insurance and depreciation. The shippers claimed 1 per cent per month for nine months (based on one voyage a month for nine months, or 9 per cent per annum) on £2000. The lightermen permitted them only 1 per cent per month for seven months. Later they claimed that insurance could be had for 10 shillings per £100

[18] Charles Povey asserted that for the early eighteenth century, it was not uncommon for a collier to cost between £2000 and £3000, which is consistent with this example. See Nef, *British Coal Industry*, I, 395.

[19] Davis, *English Shipping Industry*, 377.

if all ships were insured (at nine voyages per year this would amount to 4½ per cent per annum).[20] In the 1729 controversy the shippers claimed 2 per cent per voyage on the replacement cost of the ship (which at nine voyages per year would amount to 18 per cent), and Philalethes suggested 1 per cent per voyage on the average value of the ship (or 4½ per cent per year). Disregarding as unrealistic the lightermen's claim that the nine voyages could be made in seven months, and Philalethes' contention that the figure should be based on the average value of the ship, estimates of 4½ per cent, 9 per cent, and 18 per cent per annum remain. Two of these are high when compared to Ralph Davis' estimated risk factor of 5 per cent in the overseas trade. The 2 per cent per voyage suggested by the shippers in the 1729 controversy can be dismissed as being totally unrealistic. Accepting the 9 per cent per annum figure would imply that the coal trade was almost twice as risky as the overseas trade. The North Sea was, admittedly, a hazardous place to operate, and there was an incident early in the century in which over 200 ships were lost at one time, but masters in this case were constantly plying a familiar trade route, and could be expected to become accustomed to its peculiarities. The 9 per cent figure seems too high to be justified without further independent evidence. Consequently, a risk factor equal to that thought to exist in the overseas trade, 5 per cent, was accepted as being reasonable in the case of the coastal coal trade.

Depreciation was another controversial subject. Ralph Davis made much of the sturdiness of wooden ships, and pointed out several examples of some especially hardy vessels. He arrived at a figure of 4 per cent per annum, implying a life expectancy of 25 years for a vessel. The shippers in the 1738 controversy arrived at a figure of £100 per year for "Wear and Tear," implying a 5 per cent per year depreciation and a 20-year life expectancy. The lightermen permitted a figure only half that much, implying a life expectancy of 40 years, which was clearly unreasonable. In 1783, the *Expedition* was fitted out for the coal trade. It had a cost of £3200 and a twenty-year estimated life.[21] It is impossible to make a precise statement concerning this matter without some equivocation, but 5 per cent seems a reasonable figure to accept for depreciation.

All of the parts are now in place to make an estimate of the re-

[20] For a single voyage in 1764, the *Kent* paid a premium of 3 per cent of value insured (£400). See Smith, *Sea-Coal for London*, 124. For a full discussion of the insurance market in the eighteenth century, see A. H. John, "The London Assurance Company and the Marine Insurance Market of the Eighteenth Century," *Economica* (May, 1958).

[21] Smith, *Sea-Coal for London*, 124–125.

turn on capital for a typical vessel in the coal trade. In Table 4, the figures of Table 3 are adjusted, based on the preceding discussion, and rearranged into new groups by type of expenditure. The net return on capital using the best set of assumptions is 12 per cent per annum. If the shippers' figure of insurance (risk) of 1 per cent per voyage for nine voyages is accepted, the net return is 8 per cent per annum. If it is assumed that the typical vessel makes only eight voyages per year (with a risk factor of 5 per cent), the net return is 9 per cent per annum, and if eight voyages at 1 per cent per voyage risk are assumed, the net return is 6 per cent per annum. When the same method is applied to the figures presented in the 1729 controversy, the best set of assumptions produces a rate of return estimate of 11 per cent per annum. If risk of 1 per cent per voyage is assumed, the rate of return is 8 per cent per annum. The figures presented here are considerably above both Davis' figure of around 1 per cent to 5 per cent in the overseas trade and the shippers' claims of 1 per cent to 1½ per cent per annum.[22]

As Professor Davis was careful to point out concerning his profitability calculations, "these estimates do not provide results which economists can use in developing estimates of changing general rates of profit; they have not sufficient precision."[23] This applies to my calculations as well. The most desirable evidence needed to strengthen the estimates would be the records of a large sample of colliers over a long period of time. This would not only make specific voyage estimates possible, but would shed light on the frequency with which colliers plied different ports and engaged in alternate coastal and foreign trades. Until such evidence can be uncovered and examined, however, it is reasonable to conclude that the profitability of colliers in the London coal trade in the eighteenth century was on the order of 6 per cent to 12 per cent per annum, and most likely higher than the rate of return in the colonial trade. The above conclusion is consistent with Adam Smith's notion that there was a diversion of capital out of domestic trade and industry into the colonial trade, which raised profitability in the former and lowered it in the latter.

[22] When a lighterman was asked what profits were for that sector of the trade, he answered, "One year with another about 10 per cent." Treasury Papers BT 6, Coal Trade, 1787 1788. An Anonymous writer in the *Historical Register* claimed a profit of 15 per cent per annum for the shipping interest, XXIII (1738), 223. One feature in Table 4 that stands out is the large part of the costs that were made up of taxes. These have been discussed elsewhere. William J. Hausman, "Public Policy and the Supply of Coal to London, 1700 1770" (Doctoral dissertation, University of Illinois, 1976).

[23] Davis, *English Shipping Industry*, 379.

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Mortgage Lending by National Banks*

That restrictions on real-estate-mortgage lending by banks chartered under the National Banking Act of 1864 seriously restricted availability of long-term financing before 1913, has long been accepted. Professors Keehn and Smiley explain some ways in which resourceful national banks could circumvent this restriction. They find that lending within the letter but outside the spirit of the Act of 1864 was greater than published figures on direct lending indicate.

One of the criticisms of the national banking system that appears often in the literature is that it failed to become an important force in the long-term capital market, and particularly in the mortgage market. The National Bank Act and subsequent amendments placed restrictions on national bank mortgage lending and these, along with other features of the law, placed national banks at a comparative disadvantage. These have been given as major reasons for the system's failure to become the single commercial banking system in the United States and for the subsequent resurgence of state-chartered banks.[1]

The dominance of the "real-bills" banking theory accounts for the restrictions on long-term lending in general and mortgage lending in particular that were written into the national bank legislation. Supposedly, national banks could make short-term secured loans but not long-term secured loans. According to Lloyd Mints:

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[1] For example, see Lance E. Davis, "The Investment Market, 1870 1914: The Evolution of a National Market," *Journal of Economic History*, 25 (September, 1965), 355 399; Richard E. Sylla, "Federal Policy, Banking Market Structure and Capital Mobilization in the United States, 1863 1913," *Journal of Economic History*, 29 (December, 1969), 657-686; Ross M. Robertson, *The Comptroller and Bank Supervision* (Washington, D.C., 1968), 62 66.

"Real estate loans were invariably denounced by those who mentioned them. They 'lock up' funds, it was asserted, and are not salable." [2] The National Bank Act as written contained ambiguities, however, and there is little agreement in the literature as to the specific features of the law. It is usually interpreted as prohibiting or restricting to a considerable degree mortgage lending by national banks, forcing them to concentrate on short-term loans or U.S., state, municipal, and some private securities.

Available quantitative evidence on national bank mortgage lending reflects the substantial restrictions placed on this activity. Comparisons of the mortgage lending activity of national and non-national banks for the pre-1914 period show national banks with a significantly smaller percentage of total loans secured by mortgages and real estate. Likewise, data from the Comptroller of the Currency *Reports* show that loans secured by mortgages and real estate were, as a percentage of all national bank loans, consistently less than 2 per cent prior to 1913 but rose in subsequent years in response to an easing of the restrictions. These figures have been cited as evidence of the effectiveness of the pre-1914 restrictions. The major contention of this paper is that this evidence is misleading since it reports only direct mortgage lending and does not reflect the numerous methods that national banks used to grant loans secured by mortgages and real estate. Evidence discussed below indicates that such lending by national banks was substantially greater than the magnitudes suggested by series derived from Comptroller data.

The analysis will proceed in three steps. After reviewing the confusion in the literature, we will examine in detail the provisions of the Act relating to national bank mortgage lending. Secondly, several sources will be used to show ways in which national banks participated in mortgage lending indirectly but which did not show up in the usual banking statistics. Finally, quantitative evidence on direct and indirect mortgage lending by national banks will be examined in an attempt to measure more accurately the extent of national bank mortgage lending in the years prior to 1914.

What Others Have Concluded

Several writers have suggested that the National Bank Act prohibited investment in mortgages. According to Lance Davis: "Since it was 1913 before national banks were permitted to invest in mort-

[2] Lloyd W. Mints, *A History of Banking Theory in Great Britain and the United States* (Chicago, 1945), 215.

gages, bank loans tended to be short-term."[3] Herman Krooss and Martin Blyn discussed the matter in similar terms: "Most state laws required less capital and lower reserves, and they permitted branch banking and loans on real estate, whereas the National Bank Act prohibited the latter and permitted the former only in exceptional cases."[4] Margaret Myers offers a slightly different interpretation of the relevant provisions: "One other feature of the national banking legislation affected the financial market – that which prohibited loans on real estate mortgages of the type that state banks had been accustomed to make, and continued to make but the gap was not filled."[5] Roger Ransom and Richard Sutch talk of a prohibition on mortgage lending: "This prohibition of mortgage loans discouraged national banks from developing in rural areas."[6] Four pages later they qualify their position somewhat: "However, National banks were constrained by their charter from *extensive* mortgage activity."[7] This statement suggests not an outright prohibition but restrictive conditions. Richard Sylla reflects a very similar view: "Along with restrictive capital requirements, the prohibition of mortgage loans led to the postbellum recovery of non-national banking in rural areas."[8] Sylla, like Ransom and Sutch, quotes the following passage from the National Bank Act; ". . . [not] hold the possession of any real estate under mortgage, or hold the title and possession of any real estate purchased to secure any debts to it for a longer period than five years."[9] Reliance on this one passage rather than the entire section relating to mortgages and real estate has led to some confusion.

Other writers were more cautious in describing the restriction on mortgage lending. Ross Robertson noted that, "before 1913 the National Bank Act *for all practical purposes* prohibited loans on real estate, which in some areas constituted a major portion of competing banks' business."[10] Here mortgage lending appears restricted by onerous conditions. According to Allan Bogue, "the

[3] Davis, "The Investment Market," 358. The same statement appears in Davis, "Capital Mobility and American Growth," Chapter 22 in Robert W. Fogel and Stanley L. Engerman, eds., *The Reinterpretation of American Economic History* (New York, 1971), 288.

[4] Herman E. Krooss and Martin R. Blyn, *A History of Financial Intermediaries* (New York, 1971), 97.

[5] Margaret G. Myers, *A Financial History of the United States* (New York, 1970), 165 166.

[6] Roger L. Ransom and Richard Sutch, "Debt Peonage in the Cotton South After the Civil War," *Journal of Economic History*, 32 (September, 1972), 646.

[7] *Ibid.*, 650, emphasis added.

[8] Sylla, "Federal Policy," 661. Virtually the same statement appears in Sylla, "The United States 1863 1913," Chapter VIII in Rondo Cameron, ed., *Banking and Economic Development* (New York, 1972), 241.

[9] Ransom and Sutch, "Debt Peonage," 646; Sylla, "Federal Policy," 661.

[10] Robertson, *The Comptroller*, 65 66, emphasis added.

National Banking Act of 1863 with its amendments forbade national banks to hold real estate mortgages for any length of time."[11] Bogue implied that it was the limitation on the length of mortgage holding and not an outright prohibition that restricted national bank mortgage lending.

The National Bank Act of 1864

The most direct way to understand what national banks were permitted to do is to examine the relevant passages of the National Bank Act of 1864 and subsequent amendments.

> SEC. 28. And be it further enacted, That it shall be lawful for any such association to purchase, hold, and convey real estate as follows:
>
> First. Such as shall be necessary for its immediate accommodation in the transaction of its business.
>
> Second. Such as shall be mortgaged to it in good faith by way of security for debts previously contracted.
>
> Third. Such as shall be conveyed to it in satisfaction of debts previously contracted in the course of its dealings.
>
> Fourth. Such as it shall purchase at sales under judgments, decrees, or mortgages held by such association, or shall purchase to secure debts due to said association.
>
> Such associations shall not purchase or hold real estate in any other case or for any other purpose than as specified in this section. Nor shall it hold the possession of any real estate under mortgage, or hold the title and possession of any real estate purchased to secure any debts due to it for a longer period than five years.[12]

Subsequent amendments altered the section slightly, and the first and last paragraphs read as follows in the revised statutes:

> A national banking association may purchase, hold and convey real estate for the following purposes and no others:
>
> But no such association shall hold the possession of any real estate under mortgage, or the title and possession of any real estate purchased to secure debts due to it, for a longer period than five years.[13]

These did not significantly change the Act, and the four purposes stated in the original remained unchanged.

A detailed analysis of the section clarifies what national banks could and could not do with respect to mortgage lending and also indicates why some confusion has arisen in the literature. The first and last paragraphs indicated that the intervening sentences spell

[11] Allan G. Bogue, *From Prairie to Corn Belt* (Chicago, 1963), 175.

[12] A. T. Huntington and R. J. Mawhinney, compilers, *Laws of the United States Concerning Money, Banking and Loans, 1778 1909*, National Monetary Commission (Washington, D.C., 1910), 343 344.

[13] *Ibid.*, 383.

out the only circumstances under which national banks could hold mortgages and real estate. In addition, the final clause provided that neither mortgages nor real estate acquired under 2–4 could be held for more than five years. Part One permitted banks to hold real estate used in the conduct of its business. These bank premises were listed separately from other real estate in the Comptroller's reports beginning in 1890. Part Two allowed national banks to take a mortgage as security for an already existing loan. Thus, while a bank could not directly make mortgage loans, it could do so indirectly by renewing a note and taking a mortgage as security. Such a mortgage could be held for up to five years. Part Three permitted a bank to take title to and hold real estate in satisfaction of debts previously contracted. This provision is similar to Two but allowed the bank to take real estate, in addition to mortgages, as security for already existing loans. Part Four allowed national banks to hold real estate obtained through judgments, decrees or mortgages used to secure debts. In other words, a bank could secure an already existing loan with a mortgage and then, if necessary, foreclose on the mortgage and hold the property for up to five years.

The above provisions suggest ways by which national banks could have indirectly engaged in mortgage lending. Section Two is particularly important in this respect since it allowed national banks to accept and hold real estate mortgages as security for already existing loans. Borrower and lender could have agreed to an unsecured loan with the understanding that it would be renewed with a mortgage note as security. Such action would have violated the spirit but not the letter of the law. A bank could also have taken a mortgage note to secure a previously contracted loan that it had not intended to renew or secure. Enterprising national bankers developed variants of these methods relying primarily on Parts Two and Three.

The five-year limitation on the holding of mortgages or real estate acquired under parts 2–4 of the Act is sometimes mentioned as a major obstacle to national bank participation in mortgage financing. Allan Bogue, who saw this restriction as a deterrent to national bank mortgage lending, also offered evidence that the restriction was not significant in practice. "Most loans were repayable at the end of five years or by installments over a short term of years. The long-term amortized loan was not common in this period." [14] The bulk of mortgage loans were of short duration with

[14] Bogue, *From Prairie to Corn Belt*, 176. Bogue was referring to mortgages from all types of institutions, not just national banks.

a lump sum payment, and there is substantial additional evidence to support this. D. M. Frederickson, using data from the 1890 mortgage census, found that the average life of a mortgage was "about six years in the East, about three years in the South, and almost four years in the West."[15] Meyer Jacobstein reported that in North Dakota between 1900 and 1913 mortgage loans for "buying new land, improving old land, erecting buildings, or purchasing expensive machinery . . . average about \$1,500 to \$2,500, and runs about five years."[16] Carl Plehn found that the average life of a mortgage in California in 1899 was about three years.[17] George Putnam's study of Kansas farm credit conditions indicated that the average life of a mortgage was about five years and that in the western areas of Kansas mortgage loans of one to two years were not uncommon.[18] Shorter term mortgages were actually to the borrower's advantage in a period of falling prices. The evidence suggests that the time limit on national bank holding of mortgages and real estate taken under Parts 2–4 was not a serious handicap to participation in the mortgage market if other conditions were favorable.

More serious to national bank participation in mortgage lending was the apparent prohibition of direct mortgage lending. This undoubtedly made such lending more difficult than it otherwise would have been but could be overcome as long as sufficient profit incentives were present. Several kinds of evidence on national bank participation in mortgage lending will be discussed. First, statements from the Comptroller's annual *Reports* indicate that such lending was recognized by the Comptroller. Second, statements of contemporaries suggest that national banks were making some mortgage loans. Finally, the Comptroller provided some direct and indirect data on national bank lending that offer conflicting evidence on the amount of mortgage lending by national banks.

The Comptroller's *Reports*

Statements by the Comptrollers in their reports to Congress indicated that the national banks were making mortgage loans. In 1878, the Comptroller in summarizing the National Bank Act said:

[15] D. M. Frederickson, "Mortgage Banking in America," *Journal of Political Economy*, 2 (March, 1894), 206.
[16] Meyer Jacobstein, "Farm Credit in a Northwestern State," *American Economic Review*, 3 (September, 1913), 598.
[17] Carl C. Plehn, "The Taxation of Mortgages in California, 1849 1899," *Yale Review* (May, 1899), 57.
[18] George E. Putnam, "Farm Credit in Kansas," *American Economic Review*, 5 (March, 1915), 27.

2. One of the provisions appearing in the above grant of powers is that national banks may loan upon personal security only — that is, real estate may not be taken by them, directly or indirectly, as *original* security for any loan; the effect of which is to make them commercial institutions, and to discourage the loaning of money upon securities not readily available.

3. Mortgages in real estate may be taken, or real estate be conveyed to them by way of security for or in satisfaction of debts previously contracted in good faith; or they may purchase the same at sales under judgments, decrees, or mortgages held by them. But all possessions by them of such real estate, whether under mortgage, by purchase, or otherwise, is limited to five years.[19]

The Comptroller italicized the word "original" as if to stress this point to national banks. In 1886, the Comptroller in recommending amendments to the National Bank Act said:

> First. That section 5137 of the Revised Statutes should be so amended as to express more clearly and definitely the limitation put upon national banks with respect to their dealings in real estate and mortgages, and to provide a penalty for violation of the law.[20]

In 1887, the Comptroller presented a specific set of amendments to the National Bank Act. Sections 147 through 150 of his proposed amendments dealt specifically with mortgage lending.

> Sec. 147. No association shall take, either in its own name, or in the name of any person or corporation for its benefits, any mortgage or lien upon real estate as security for a contemporaneous loan or for future advances made or to be made by it; nor shall any association purchase or hold any bond, note, or evidence of debt so secured, or the shares or debentures of any company or corporation dealing in real-estate securities.
>
> Sec. 148. The provisions of the preceding section shall not apply in either of the following cases:
>
> (1) The discount for an indorser in the ordinary course of business of a bona fide bill of exchange or negotiable promissory note having not more than four months to run, which is deemed by the board of directors a good asset without reference to any mortgage or lien collateral thereto.
>
> (2) The taking of a bill or note so secured which has not more than four months to run, when the same is assigned to the association in good faith, for the purpose of procuring the extension of a debt previously incurred.
>
> (3) The taking of a mortgage or lien on real estate, or any obligation secured thereby, for the purpose of securing a debt previously contracted in good faith.
>
> But in all the cases specified in this section a full record of the transaction and of the reasons therefore, shall be entered upon the directors' minutes, and shall be attested by the signatures of a majority of the board.

[19] *Report of the Comptroller of the Currency*, 1878 (Washington, D.C., 1879), 55.
[20] *Report of the Comptroller*, 1886, 6.

Sec. 149. Nothing in this act shall be held to invalidate the title of any association to any bonds, debentures, or stocks acquired by it, or to any bill, note, or evidence of debt discounted by it, nor to render any mortgage or lien upon real estate invalid, nor to deprive any association or its assigns of the title to or possession of any real estate, or of any of the remedies to which mortgages or persons holding liens upon real estate are entitled by the laws of the State, Territory, or District in which the property is situated.

Sec. 150. Every association offending against the provisions of section one hundred and forty-seven of this act shall be liable for each infraction at the rate of one per centum per month upon the amount involved therein during the entire period that such obligations or securities are held by it, or by any person or corporation for its benefit.[21]

However, these amendments were not enacted, and in the 1888 *Report* to Congress the Comptroller repeated his request for their passage and made the reasons for the request more specific.

Section 5137, Revised Statutes, prohibits national banks from holding real estate by title or under mortgage, except in certain specified cases, and the courts have construed this as forbidding also, loans upon the security of real estate.

The language of the statute is not explicit, and it has been variously construed by different courts, nor has the restriction that popular support which is almost necessary to the official enforcement of the law. On the contrary, there is a widespread feeling that the national bank law discriminates against real estate unjustly, and in agricultural communities this feeling is so strong that in many cases it is resentful, and is made the ground of popular opposition to the whole national bank system. Even among experienced and conservative bankers in certain sections there appears to be a feeling that the restraint in this respect is unreasonable.

Among the amendments to the national bank law which were submitted with my last Annual Report will be found certain modifications of the provisions bearing upon real estate security, and I respectfully repeat the recommendation for their speedy enactment.[22]

The passage emphasizes the ambiguity of the law and the various constructions placed upon it by different courts. It does not talk of an outright prohibition, but of undue discrimination, which presumably put some national banks at a disadvantage and forced them to circumvent the law.

[21] *Report of the Comptroller*, 1887, 28.

[22] *Report of the Comptroller*, 1888, 71 72. One reason for the Comptroller's continuing concern was that some national banks in agricultural areas converted to state charters because of the greater ease in making mortgage loans. The following passage illustrates this problem facing the Comptroller: "Because of the inability to loan on real estate, and the state of Wisconsin having passed a safe and adequate banking law, the stockholders deemed it inadvisable to renew the national charter when it expired in 1891, and, by unanimous vote, agreed to 'take the necessary steps to form a state bank, to succeed to all the assets, goodwill and business of the First National Bank of Burlington, to be organized under the banking laws of Wisconsin, under the name of "Bank of Burlington".'" Fanny S. Stone, editor, *Racine, Belle City of the Lakes and Racine County of Wisconsin*, Volume 2 (Chicago, 1916), 27.

The *Report* of 1893 contained summary provisions and judicial decisions relating to mortgage and real estate provisions. Under "mortgage" the Comptroller listed the following (case citations omitted):

1. National banking associations are by implication prohibited from taking mortgages on real estate as security for contemporaneous loans.
2. But where such security has been taken, no one but the Government can be heard to complain that the association has exceeded its powers.
3. Where a national banking association sells real estate it may take a mortgage thereon to secure the payment of the purchase money.
4. An agreement by a national banking association to the effect that, in case a note discounted by it shall not be paid, a mortgage by the maker to his endorser shall inure to the benefit of the association and is not inhibited by the national banking law.
5. A national bank may loan on security of a mortgage if not objected to by the United States.[23]

These and similar interpretations under "Real Estate" indicate that court decisions gave national banks considerable leeway in lending secured by mortgages and real estate. Subsequent *Reports* contained a similar but expanded discussion.

The *Report* of 1903 included an extended discussion of the National Bank Act and its interpretation. Under the general heading "Powers" were two subsections; "Power to hold or acquire real estate" and "When national bank may take mortgage," and each subsection contained a detailed list.[24] In 1911 the Comptroller reported on the percentage of all national banks violating various

[23] *Report of the Comptroller*, 1893, 51.

[24] *Report of the Comptroller*, 1903, 963 965. Under "Power to hold or acquire real estate" the following were listed (explanations and case citations omitted):

May purchase realty to secure previous debt
When may purchase more than amount of debt
May purchase at sheriff's sale and sell
Bank may buy undivided interest in realty
May sell timber on land bought at foreclosure sale
Ultra vires purchase voidable only
When purchase part void or part voidable
Leasing and improvement of real estate
Indebtedness-obligation to pay rent
Acts ultra vires-liability of third parties
Deed to third party in trust for bank

Under "When national bank may take mortgage" the following were discussed:

May take mortgage to secure previous debt
Deed of trust to bank may be enforced
Agreement that bank may enforce endorser's indemnity valid
When may acquire and enforce prior liens
Borrower may mortgage to another for bank
May take mortgage for purchase price of realty sold
May take as collateral, stock representing only realty
May buy and enforce secured note subject only to forfeiture
May buy additional note to protect its claim
Foreclosure of mortgage given to predecessor state bank
Mortgages for present or future advances invalid

provisions of the National Bank Act. Of special interest is the number of banks reported as granting accommodation on the security of mortgages or other lien on realty. It is not clear how the Comptroller identified loans in violation of the Act, but presumably the data came from bank examiner reports. For call dates from January 31, 1910 to September 1, 1911, between 10.52 and 16.10 per cent of all national banks had loans in violation of the mortgage provisions of the statute.[25]

These statements from various *Reports* indicate that national banks could and did engage in mortgage lending and that the Comptroller was aware of, and sometimes sympathetic to, those actions. The reported court decisions also indicated the ambiguity in the law.

Statements of Contemporary Observers

Statements of contemporaries provide considerable evidence on the methods used to avoid the direct ban on mortgage lending. Jessie Pope, writing in 1914, reported that it was common practice among national banks to take mortgages on real estate for added security for an already existing personal loan.[26] Meyer Jacobstein indicated that this was an accepted practice in North Dakota. "Banks are forced to loan on the personal note of the farmer, secured by a mortgage, instead of taking a direct mortgage on the property. Other banks turn these mortgage loans over to trust companies, and collect a commission from the farmer for placing the mortgage."[27] He suggested that this method resulted in higher mortgage rates than would have existed with more direct real estate loans. Allan Bogue, in discussing rural credit in Kansas, reported that local banks acted as agents for mortgage companies or eastern investors.[28] Lewis Haney, in discussing Texas, indicated that individuals in the community could make direct mortgage loans and then receive personal loans from the bank to finance the lending. This is in line with his statement that, "sometimes if a borrower has real estate notes, they are put up in national banks and although they are not pledged for security, it is understood that they are in the bank for that purpose."[29] Benjamin Klebaner described another tactic; "Faced with

[25] *Report of the Comptroller*, 1911, 18.

[26] Jesse E. Pope, "Agricultural Credit in the United States," *Quarterly Journal of Economics*, 28 (August, 1914), 713.

[27] Jacobstein, "Farm Credit," 605.

[28] Allan G. Bogue, *Money at Interest: The Farm Mortgage on the Middle Border* (Ithaca, New York, 1955), 252 253.

[29] Lewis H. Haney, "Farm Credit Conditions in a Cotton State," *American Economic Review*, 4 (March, 1914), 49 50. The complete quote from Haney is: "Real estate security

competition from state chartered banks, national banks, with the complicity of the Comptroller of the Currency, used indirect methods to evade the ban. Sometimes a mortgage and trust company would be organized which shared the premises and management of the national bank."[30] These comments suggest that observers were aware of several ways in which national banks engaged in mortgage lending.[31]

The Quantitative Evidence

Some quantitative evidence, direct and indirect, is available in figures reported in various Comptroller Annual *Reports* but direct evidence is limited to the years immediately prior to 1914. Series X 634 655 in *Historical Statistics* reports data on national bank loans secured by real estate (including mortgages) from 1896.[32] Such loans made up less than 2 per cent of all national bank loans for the years 1896–1914. This series is drawn from *All Bank Statistics*, where the statistics on mortgage and real estate loans for the years prior to 1909 are based on estimates constructed using the ratio of real estate loans to total collateral loans in the April 23, 1909 call report.[33] Direct figures on national bank loans secured by mortgages and real estate were available for 1909 and 1911–1913

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is a knotty point for bankers in farming communities. State banks in Texas are allowed to take a certain amount of real estate as security for loans and do so; but as everyone knows, national banks are prohibited by law from doing this. As a matter of fact, national banks do take some land as security, and over one half of all banks reporting held farmers' personal notes secured by real estate. Such loans appear to make from one percent to ten percent of the total. Sometimes, if a borrower has real estate notes they are put up in national banks, and although they are not pledged for security, it is understood that they are in the bank for that purpose. If a national bank has good customers who have real estate paper, it will frequently take their notes for collection on the understanding that when collected these notes will be applied on the payment of their obligation to the bank. Occasionally, too, national banks take real estate loan as collateral security when the maker of the land note does not have to be depended upon for the liquidation of the debt. It seems that national bank examiners are familiar with this fact and that all practice has been tacitly sanctioned, perhaps to check lending without any security at all." Texas might not be typical because that state did not permit state banks until 1905 and national banks would have been more apt to devise and use methods for participating in the mortgage market.

[30] Benjamin J. Klebaner, *Commercial Banking in the United States: A History* (Hinsdale, Illinois, 1974), 79.

[31] Harold G. Moulton, *The Financial Organization of Society* (Chicago, 1921), reported that: "Indeed, it has been the rule rather than the exception, that at least a part of the loans extended to farmers during the crop growing period are carried over, extended for an indefinite number of years. This practice is in part attributable to the fact that the National Bank Act did not permit national banks to loan on the security of real estate mortgages, in consequence of which the national institutions in order to meet the competition of state banks, made loans for fixed-capital purposes to farmers merely on the security of their single or indorsed promissory notes. In the nature of such things such loans usually had to be extended for a long period of years" (658).

[32] U.S. Bureau of the Census, *Historical Statistics of the United States, Colonial Times to 1970, Bicentennial Edition, Part 2* (Washington, D.C., 1975), 1011, 1025.

[33] Board of Governors of the Federal Reserve System, *All Bank Statistics: United States 1896 1955* (Washington, D.C., 1959), 16 17.

only. These figures are undoubtedly an underestimate because they record only loans secured by direct methods. Loans secured indirectly by mortgages and real estate as described previously were not included in the 1909 and 1911–1913 base figures.

Tables 1 and 2 contain the only available direct evidence on mortgage lending by national banks that we have been able to locate. This information was reported by the Comptroller in 1911, 1912, and 1913. The tables show that in these three years mortgage loans made up no more than 4 per cent of total national bank loans outstanding. While the percentages are somewhat higher in agriculturally oriented areas, they suggest that national banks were not

Table 1

The Percentage of All Loans and Discounts by National Banks That Were Secured by Real Estate (Including Mortgages Owned)

STATE	1913[1]	1912	1911	STATE	1913[1]	1912	1911
Maine	0.38	0.46	0.39	Oklahoma	2,63	4.17	3.21
Vermont	0.21	1.13	1.30	Ohio	1.46	2.05	1.86
New Hampshire	0.12	0.51	0.81	Indiana	0.80	2.66	2.35
Massachusetts	0.35	0.21	0.23	Illinois	0.97	1.09	1.03
Connecticut	0.33	0.42	0.48	Michigan	0.29	1.15	1.16
Rhode Island	0.00	0.12	0.07	Wisconsin	0.39	1.25	1.25
New York	0.83	0.29	0.25	Minnesota	1.10	2.18	2.00
New Jersey	0.76	0.96	0.90	Iowa	0.72	2.94	2.73
Pennsylvania	1.09	1.06	1.03	Missouri	0.27	0.63	0.38
Delaware	0.58	1.15	0.95	North Dakota	5.33	8.26	6.69
Maryland	0.87	0.66	0.55	South Dakota	2.94	3.87	2.94
Virginia	0.71	0.86	0.55	Nebraska	1.16	1.62	1.17
West Virginia	0.42	0.65	0.61	Kansas	0.97	1.90	1.48
North Carolina	0.56	0.47	0.41	Montana	1.55	2.86	2.46
Kentucky	0.59	1.25	1.35	Wyoming	2.22	3.00	2.19
Tennessee	0.37	0.91	1.10	Colorado	1.65	3.00	3.05
South Carolina	0.35	0.90	0.48	New Mexico	1.13	3.59	3.69
Georgia	0.43	0.83	0.71	Idaho	2.84	3.23	3.28
Florida	0.90	1.87	1.68	Utah	0.69	1.84	1.32
Alabama	2.39	3.03	2.73	Nevada	1.32	3.72	3.56
Mississippi	4.75	6.41	6.61	Arizona	1.34	2.80	3.09
Louisiana	6.51	2.95	3.38	Washington	0.71	3.10	2.65
Arkansas	2.25	2.70	2.16	Oregon	1.41	2.44	2.21
Texas	1.48	3.24	3.09	California	1.14	1.36	1.51

Sources: 1913: *1913 Comptroller's Report*, 227–230; 1912: *1912 Comptroller's Report*, 694 695; 1911: *1911 Comptroller's Report*, 730 731.

Note:[1] The 1913 data are not completely comparable to the 1912 and 1911 data. The 1913 data excluded the reserve city banks in each state and included only those loans and discounts that were maturing in 90 days or less.

actively engaged in direct mortgage lending. These figures represent a lower bound for national bank mortgage lending.

Table 3 presents evidence on the extent of national bank direct secured lending. The figures record the percentage of all national

Table 2
The Percentages of All Loans and Discounts by National Banks That Were Secured by Real Estate (Including Mortgages Owned)

YEAR	NE[2]	MA	ENC	USE	LSE	SW	WNC	MOU	PC
1911	0.33	0.57	1.53	0.83	2.54	3.15	2.48	1.59	2.12
1912	0.30	0.60	1.64	0.88	2.67	3.71	3.06	2.83	2.30
1913[1]	0.30	0.93	0.78	0.55	2.51	2.06	1.78	3.01	1.09

Source: Calculated from Table 1. Regional values are arithmetic averages of the individual state values for national banks.

Notes: [1] The 1913 data are not completely comparable to the 1912 and 1911 data. The 1913 data excluded the reserve city banks in each state and included only those loans and discounts that were maturing in 90 days or less.

[2] NE (New England): Me, NH, Vt, Ma, Cn, RI.
MA (Middle Atlantic): NY, NJ, Pa, Dl, Md.
ENC (East North Central): Oh, In, Il, Mi, Wi.
USE (Upper Southeastern): Va, WV, NC, Ky, Tn.
LSE (Lower Southeastern): SC, Ga, Fl, Al, Ms, La, Ar.
SW (South West): Tx, Ok.
WNC (West North Central): Mn, Ia, Mo, ND, SD, Nb, Ka.
MOU (Mountain): Mt, Wy, Co, NM, Az, Nv, Ut, Id.
PC (Pacific Coast): Wa, Or, Ca.

Table 3
Time Loans Secured by Stocks, Bonds, and Other Personal Securities, or on Mortgages and Other Real Estate Security as a Percentage of All Loans and Discounts for National Banks

YEAR	ALL BANKS	COUNTRY BANKS	YEAR	ALL BANKS	COUNTRY BANKS
1890	14.94	13.67	1902	19.58	18.88
1891	15.80	15.16	1903	18.83	19.78
1892	17.03	15.58	1904	18.78	19.42
1893	17.40	16.65	1905	18.83	19.27
1894	20.07	18.52	1906	19.03	19.37
1895	18.67	18.29	1907	18.58	18.96
1896	19.59	18.92	1908	21.00	19.81
1897	19.85	19.42	1909	20.67	19.77
1898	19.85	19.45	1910	19.99	19.48
1899	20.46	18.43	1911	19.92	19.68
1900	19.61	18.25	1912	20.57	19.77
1901	19.41	18.68	1913	20.58	19.98

Source: Derived from the annual *Reports of the Comptroller of the Currency.*

bank loans secured by stocks, bonds and other personal securities, mortgages and other real estate security. The percentage increased from under 14 per cent in 1890 to almost 20 per cent in 1913. The figures slightly understate secured lending because such loans maturing within ninety days are not included. These figures represent only direct mortgage and other secured lending by national banks and do not include indirectly secured loans. They are presented only to give some estimate of the extent of direct secured lending by national banks.

The concerns expressed in the Comptroller's *Reports* and statements of contemporaries suggest that national banks were making mortgage loans to a greater extent than indicated by the direct figures available on mortgage lending. Some indirect evidence has been developed using figures from the Comptroller's *Reports*. These contain state-by-state balance sheet data for country national banks and city-by-city balance sheets for reserve city national banks. Prior to 1890, the value of any real estate owned by a national bank was included with the value of the bank building, land, furniture, fixtures, etc., but from 1890 on, other real estate owned was listed as a separate item.[34] Table 4 presents yearly averages of the ratio of other real estate to loans and discounts for country bank regions of the United States. The "real estate" held by banks was taken because of loan default under section 2 or foreclosed under sections 3 and 4. National banks also acquired real estate through default on loans indirectly secured by mortgages and real estate. The actual amount of mortgage loans must have been larger than the amount of real estate owned since the probability of all national bank mortgage loans defaulting seems negligible.

While the values of the ratios are generally rather small, they did rise during the depression years of the 1890s, and the rise was most pronounced in agriculturally oriented areas. The ratio rose more in the Lower Southeastern states than in the Upper Southeastern, East North Central, Middle Atlantic, and New England states, and rose the most in the West North Central, Mountain, and Pacific Coast states. For some states within the regions, the increase in the ratio was even greater.

Within the West North Central region, the ratio of other real estate to loans and discounts of Nebraska banks rose to 8.53 and 8.70 per cent in 1897 and 1898; in South Dakota it rose to 9.34 and 8.22 per cent in the same years; and, in Kansas, it was 4.48 per cent

[34] For a discussion and definition of the balance sheet items in the *Reports* from the Comptroller's office, see Edgar G. Alcorn, *The Duties and Liabilities of Bank Directors*, third ed. (Indianapolis, 1915), 138–153.

TABLE 4
THE RATIO OF REAL ESTATE TO LOANS AND DISCOUNTS FOR COUNTRY NATIONAL BANK REGIONS

YEAR	NE[1]	MA	ENC	USE	LSE	SW	WNC	MOU	PC
1890	0.26	0.94	0.94	0.60	0.81	0.73	1.64	1.01	0.88
1891	0.28	0.82	0.89	0.53	1.00	0.41	1.90	1.17	1.14
1892	0.32	0.91	0.77	0.67	1.32	0.76	2.05	1.37	1.67
1893	0.36	0.96	0.79	0.77	1.57	1.02	2.11	1.85	1.86
1894	0.45	1.28	1.17	1.29	2.38	0.96	3.16	3.58	3.42
1895	0.49	1.55	1.40	1.48	2.92	1.48	3.88	5.07	5.13
1896	0.74	1.72	1.56	1.83	2.79	1.76	4.68	6.67	7.31
1897	0.87	1.88	1.88	1.99	2.86	1.93	5.46	7.68	9.69
1898	0.91	1.90	2.00	1.82	2.84	1.67	5.15	5.93	9.38
1899	0.99	1.98	1.90	1.76	2.74	1.34	4.70	5.31	8.42
1900	0.78	1.74	1.49	1.28	2.17	1.05	3.31	3.81	6.32
1901	0.67	1.40	1.15	1.13	1.79	0.80	2.42	2.81	5.10
1902	0.58	1.18	0.89	0.84	1.37	0.68	1.65	2.35	3.49
1903	0.51	0.99	0.66	0.60	1.11	0.77	1.12	1.61	2.15
1904	0.49	0.87	0.54	0.54	0.77	0.94	1.05	1.10	1.42
1905	0.37	0.81	0.50	0.45	0.72	1.10	1.06	1.21	1.11
1906	0.36	0.72	0.48	0.30	0.61	0.91	1.04	1.22	0.87
1907	0.33	0.61	0.47	0.28	0.53	0.85	0.98	0.89	0.70
1908	0.31	0.78	0.48	0.43	0.64	1.06	1.03	0.84	0.77
1909	0.28	0.55	0.48	0.48	0.78	0.99	0.92	0.80	0.81
1910	0.25	0.52	0.49	0.47	0.73	0.88	0.84	0.74	0.88
1911	0.37	0.59	0.52	0.50	0.64	1.04	1.02	1.50	1.04
1912	0.31	0.67	0.49	0.59	0.70	1.15	1.11	1.55	1.15
1913	0.27	0.75	0.53	0.57	0.77	1.20	1.13	1.64	1.27

Source: Derived from the annual *Reports of the Comptroller of the Currency*. Regional values are arithmetic averages of the individual state values.

Note:[1] See Table 2 for regional definitions.

in 1895, 4.87 per cent in 1896, and 4.80 per cent in 1897. For Wyoming the ratio was above 10 per cent from 1897 through 1899. Even higher ratios were reported in the Pacific Coast states; the ratios for Washington banks were 7.39, 11.48, 16.22, 16.03, and 13.46 per cent for the years 1895 through 1899 respectively. Between 1896 and 1899 in California, the ratios ranged between 6 and 7.33 per cent.[35]

[35] George E. Barnett, *State Banks and Trust Companies Since the Passage of the National Bank Act* (Washington, D.C., 1911), 108, provided similar information on state banks: "Despite these restrictions and the vigilance of the state bank supervisors, in the period from 1892 to 1897 many state banks in the Middle Western and Western States came into the possession of large amounts of real estate. Under the conditions then prevailing it would have been impossible to force the banks to sell their real estate without driving many of them into insolvency. The increase in the value of real estate in these states since 1898 has enabled the supervisors to secure a great reduction in the real estate holdings of the banks."

The ratios suggest that banks were taking mortgages to secure already existing loans and were foreclosing on an increasing number of these during the depression years of the mid-1890s.[36] Since it is very unlikely that all mortgage loans were foreclosed, the amount of mortgage lending by national banks in the western half of the United States would seem to have been rather large. This indirect evidence also suggests that mortgage lending was more important in the predominantly agricultural areas as compared to more industrialized ones and was above the reported figures reflecting direct mortgage lending.[37]

CONCLUSION

The direct and indirect evidence discussed above is somewhat contradictory.[38] Statements by the Comptroller and by contemporaries suggest that national banks found ways to circumvent the direct prohibition on mortgage lending. Indirect data suggests that the volume of such lending might have been significant, but the direct data for 1911–1913 suggests that such lending was not quantitatively significant. At present, we can only suggest that the amount must have been above the lower bound direct figure. While the statements of contemporaries did not indicate clearly the magnitude of national bank mortgage lending, they suggested several ways in which country national banks could and did avoid the prohibition on direct mortgage lending. There is little doubt that restrictions

[36] One cannot gauge the relative magnitude of losses (defaults) on mortgage loans by changes in the ratio of real estate to loans and discounts. This ratio can change for several reasons, an obvious one being relative changes in loans and discounts. In addition, "other real estate" could be held for up to five years by the bank. It was possible for substantial losses on mortgage loans to have occurred during a year and to still have the real estate to loans and discounts ratio fall if sales of already owned real estate exceeded new defaults. However, it is clear that the amount of real estate owned by the national banks was largely dependent upon the losses the banks suffered. The ratio of gross losses to loans and discounts for country banks by state has been calculated from the Comptroller's *Reports*. [See Gene Smiley, "Short-Term Interest Rates of National Banks for States and Reserve Cities, 1888–1913," Working Paper 74–12, Bureau of Business and Economic Research, University of Iowa, Iowa City, Iowa (June, 1974)]. Regional loss ratios can be calculated for the same regions as the real estate ratios in Table 1. The estimated correlation coefficients between the regional real estate and loss ratios for the respective regions are: NE, 0.70; MA, 0.85, ENC, 0.85; USE, 0.83; LSE, 0.85; SW, 0.76; WNC, 0.86; MOU, 0.95; and PC, 0.80.

[37] The data in Table 4 indicate that even in the non-depression years of the 1890–1913 period, banks in the more agriculturally oriented states in the western half of the United States owned relatively larger amounts of real estate suggesting (with relatively similar loss ratios) relatively larger amounts of direct and indirect mortgage lending by those national banks. (Tables 1 and 2 indicate that this is so for the years of 1911, 1912, and 1913). It seems logical to assume that in areas where substantially larger portions of economic activity were directly and indirectly related to agricultural output and income, national banks would make relatively more loans (such as mortgage loans) directly tied to that sector.

[38] One could reconcile the conflict if it were known that national bank mortgage lending in the years 1911, 1912, and 1913 were abnormally low compared to the preceeding years. However, there is no reason to suspect this and it does not seem to be a plausible explanation.

on national banks led to second-best solutions and reduced national bank participation in the mortgage market to a level below what it would have been without the restrictions, but there is evidence that the quantitative impact of the restrictions was less than has been generally assumed.

Donald Horton, Harold Larsen, and Norman Wall reported that: "In 1915, 1916 and 1917 the proportion [of farm mortgages recorded by individuals] was smaller than for other years of the decade, and the proportion recorded by commercial and savings banks and life insurance companies was higher than for the other years. The increased importance of state and national banks as a source of new mortgage recordings was caused partly by the removal of certain restrictions on the making of real estate loans by national banks." [39] The share of farm mortgage loans recorded by banks, which averaged 18.3 per cent between 1910 and 1914, rose to 24.2 per cent in 1916.[40] In part, this reflected increased bank participation, but more important was the fact that national banks could, after 1914, make direct mortgage loans that could be recorded and reported as such.

The Comptroller's 1911–1913 data reflect standard mortgage lending where the mortgage was duly recorded at the county court house. National banks were required to report all loans secured by mortgages, but this probably excluded loans indirectly secured. Banks could have made unsecured loans and taken mortgages as security but not recorded them. If default occurred, the bank could then record the mortgage and foreclose if necessary. Since the mortgage would have no legally binding impact until recorded, this would require that the bank have considerable knowledge of, and trust in, the borrower. National banks could also make loans secured by a co-signer. In 1893 the Comptroller reported that "in case a note discounted by it shall not be paid, a mortgage given by the maker to his endorser shall inure to the benefit of the (National Banking)

[39] Donald C. Horton, Harold C. Larsen, and Norman J. Wall, *Farm Mortgage Credit Facilities in the United States*, Miscellaneous Publication No. 478, U.S. Department of Agriculture (Washington, D.C., 1942), 22–23.

[40] *Ibid.*, 21. Horton, Larsen, and Wall provided some additional indirect evidence that suggests that the impact of the removal of the prohibition on direct mortgage lending by national banks in 1914 was slight. Their Table 67 (227–228) reported "Estimated interest rates on outstanding farm mortgages, by States, Jan. 1, 1910–40." Table 68 (229–231) reported "Average contract interest rates on farm mortgages recorded by selected lender groups, by geographic division, 1910–35." The interest rates recorded were quite constant between 1910 and 1920, indicating that the change in the regulations facing national banks had little impact in the mortgage market. If the restrictions had greatly hampered national bank participation in the mortgage market, one would expect to find bank farm mortgage interest rates and farm mortgage interest rates in general falling in the years after 1914. Other factors of course were affecting mortgage interest rates but the figures are consistent with the interpretation that national bank participation in the mortgage market was not appreciably increased in the post 1914 period. The nature of this participation evidently changed from indirect to direct, however.

association,"[41] and such an arrangement was not inhibited by the national banking law. This arrangement, in effect, allowed national banks to make loans indirectly secured by real estate, but not indicated as such in their reports.

National banks could and did make mortgage loans during the first fifty years of the national banking system. While evidence on the magnitude of national bank mortgage lending is imprecise, it suggests that it was above the low reported figures on direct mortgage lending by national institutions. Previous studies have been influenced by the intent to limit national bank long-term lending and the consequent limited amount of direct mortgage lending reflected in national bank reports. National banks, especially those in agricultural areas, found ways to meet pressing needs for long term loans. The continual concern of the Comptroller's office, statements of contemporaries, and other indirect measures support this contention. In some areas at least, national banks may have been an important supplement to other institutions engaged in mortgage lending. This conclusion is at variance with the findings of banking historians who relied mainly on the law and on reported figures. The relative decline in national banking and the resurgence of state chartered institutions may have been due less to the restrictions on national bank participation in the mortgage market and more to other restrictions including minimum capital requirements, stricter examinations, and other portfolio restrictions.

[41] *Report of the Comptroller*, 1893, 51.

THE EDITOR'S CORNER

The Harvard Graduate School of Business Administration announces a postdoctoral fellowship in business history for 1978–79 in the amount of $18,500. For details, see the announcement facing page 415 in this issue of the *Review*.

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The Business History Conference will hold its annual meeting at the Eleutherian Mills Library, Greenville, Delaware, on February 24 and 25, 1978. Professor Herman Freudenberger of Tulane University, New Orleans, Louisiana 70118, has arranged the program. For information about membership in the Conference, which is open to anyone with an interest in business history, or attendance at the meeting, write to the Secretary, Professor Fred Bateman, School of Business, Indiana University, Bloomington, Indiana 47401. The themes of the meeting are International Business History and Law and Economics Relating to Business.

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The Eleutherian Mills — Hagley Foundation and the History Department of the University of Delaware jointly sponsor a program of graduate study for students interested in one or more of the following academic specialities: American economic history, the history of technology, and museum studies. Financial aid consisting of a $3,000 stipend per year, full tuition, and a small travel fund is available. In addition, in the case of fellowships funded by the Foundation, a dependency allowance of $1,200 per year is available to eligible individuals. These awards are automatically renewable for one year beyond the initial year for students enrolled as M.A. candidates and for three years beyond the initial year for those pursuing the Ph.D. *The program is solely for students studying at the University of Delaware.* Deadline for applications is February 7, 1978. For further information write: Coordinator, Hagley Program, Eleutherian Mills-Hagley Foundation, Greenville, Wilmington, Delaware 19807.

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The Fernand Braudel Center for the Study of Economies, Historical Systems, and Civilizations, at the State University of New York at Binghampton, announces that it will publish a quarterly *Review*. For further information, write Immanuel Wallerstein, Director, State University of New York at Binghampton, Binghampton, New York 13901.

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Franz Steiner Verlag announces the inception of a new journal, *Zeitschrift für Unternehmensgeschichte*, which they will publish three times a year. The publication is devoted to business history in all its branches,

and contributions in English and French will be accepted. For further information, write Vincent Sieveking, Franz Steiner Verlag, 6200 Wiesbaden, Friedrichstrasse 24, Postfach 472, West Germany.

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The Johns Hopkins University Department of History will again hold its Summer Seminar on Quantitative Techniques in Historical Research, May 30 through July 21, 1978. The program, which will emphasize basic statistical and computer skills and the fundamentals of project design, is designed for faculty members and graduate students, but undergraduates have also taken it successfully. Applications are due by April 1, 1978. Write Professor Richard Goldthwaite, Chairman, Department of History, The Johns Hopkins University, Baltimore, Maryland 21218 for further information.

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The National Park Service has published *Historic American Engineering Record Catalog, 1976*, a 193-page paperback book which is a compilation of all documentation materials produced by the Historic American Engineering Record from its beginning in 1969 through December 1975. It should be of considerable interest to persons interested in industrial archaeology. For further information, write Douglas L. Griffin, Chief, Historic American Engineering Record Division, National Park Service, U.S. Department of the Interior, Washington, D.C. 20240; or send $3.50 to the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402.

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The New York State Historical Association is accepting manuscripts for its New York State Historical Association Manuscript Award, for which the deadline is February 1, 1978. The prize, consisting of $1000 and assistance in publication, was awarded this year to Edward K. Spann, Professor of History, Indiana State University, Terre Haute, for his monograph, "The New Metropolis: New York City, 1840–1857." For further information, write to Dr. Wendell Tripp, Editorial Associate, New York State Historical Association, Cooperstown, New York 13326.

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The Indiana Historical Society will award two pre-doctoral fellowships of $2000 each in Indiana history or the history of the Old Northwest. Deadline for applications is March 15, 1978. Write Gayle Thornbrough, Indiana Historical Society, 315 West Ohio Street, Indianapolis, Indiana 46202.

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The Kress Library of the Harvard Graduate School of Business Administration and the Goethe Institute of Boston presented an exhibition, "Dialogue in Political Economy — Translations from and into German in the 18th Century," at the Baker Library, Harvard University, November 16–December 30, 1977. A copy of the catalogue, compiled and with

an introduction by Kenneth Carpenter, is available from the Kress Library, Baker Library, Harvard University, Soldiers Field, Boston, Massachusetts 02163, for five dollars.

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We have received the following books, in addition to those reviewed:

Adams, J. D. R., and J. Whalley, *The International Taxation of Multinational Enterprise in Developed Countries* (Westport, Conn.: Greenwood Press, 1977), pp. 178, $19.95.

Ammer, Christine, and Dean S. Ammer, *Dictionary of Business and Economics* (New York: Free Press, 1977), pp. 461, $19.95.

Balachandran, M., *A Guide to Trade and Securities Statistics* (Ann Arbor, Michigan: Pierian Press, 1977), pp. 185, $14.95.

Fiegehen, G. C., P. S. Lansley, and A. D. Smith, *Poverty and Progress in Britain, 1953–73* (New York: Cambridge University Press, 1977), pp. 177, $12.95.

Frank, Andre Gunder, *On Capitalist Underdevelopment* (New York: Oxford University Press, 1976), pp. 113, $1.90 paper.

Holbert, Hayward Janes, *A History of Professional Management in American Industry* (New York: Arno Press, 1976), pp. 229, $18.00. A dissertation accepted by the New York University School of Education in 1940.

Honour, Frances M., *The State of the Industrial Revolution in 1776* (New York: Vantage Press, 1977), pp. 114, $5.95.

Lewenhak, Sheila, *Women and Trade Unions: An Outline History of Women in the British Trade Union Movement* (New York: St. Martin's Press, 1977), pp. 308, $14.95.

Little, Anthony J., *Deceleration in the Eighteenth-Century British Economy* (Totowa, NJ: Rowman and Littlefield, 1976), pp. 111, $13.50.

Morelli, Roberta, *La Seta Fiorentina Nel Cinquecento* (Milan: Dott. A. Guiffre Editore, 1976), pp. 95, no price given.

Johnson, Paul, *Enemies of Society* (London: Weidenfeld & Nicholson, 1977), pp. 278, £5.95 in the United Kingdom.

Nayyar, Deepak, *India's Exports and Export Policies in the 1960s* (New York: Cambridge University Press, 1977), pp. 392, $28.50.

Post, John D., *The Last Great Subsistence Crisis in the Western World* (Baltimore: Johns Hopkins University Press, 1977), pp. 240, $12.95. A study of the effects of the exceptionally cold period following the Napoleonic Wars, and especially the cold summer of 1816, on food production in the Western world.

Thuillier, Guy, *Pour une Histoire du Quotidien au XIXe Siecle en Nivernais* (Paris: Mouton & Co., 1977), pp. 490, no price given.

Vidal, Gore, *et al.*, *Great American Families* (New York: Norton. 1977), pp. 190, $15.95

Amos Tuck School of Business Administration, Dartmouth College, *The Business System: A Bicentennial View* (Hanover, NH: University Press of New England, 1977), pp. 91, no price given. Collection of papers read at the Seventy-fifth Anniversary Celebration of the Tuck School.

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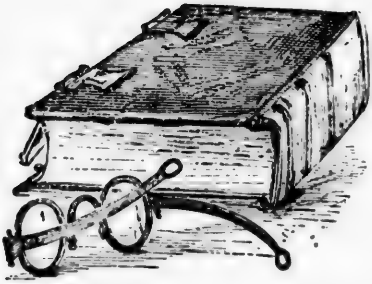

BOOK REVIEWS

STORM OVER THE MULTINATIONALS: THE REAL ISSUES. ***By Raymond Vernon. Cambridge, Mass., Harvard University Press, 1977. Pp. xii + 260. $12.50.***

THE MULTINATIONAL CORPORATION: A GUIDE TO INFORMATION SOURCES. ***By Helga Hernes. Detroit, Gale Research Company, 1977. Pp. xxv + 197. $18.00.***

Reviewed by Charles P. Kindleberger
Professor of Economics Emeritus
Massachusetts Institute of Technology

Sanjaya Lall in the April–May 1974 issue of *World Development* produced a spectrum of analysts of the multinational corporation, starting with the business school "How-to-do-it" school, at the right extreme, followed successively by the liberal laissez faire economists, and still right of center, the neo-liberals, who allow for mistakes of the market, including externalities. As one crosses the line from positive to negative, one comes to the nationalists, who resent the trouble caused by MNCs to national policies, the "dependencia" school, that professes concern for imperialism, and at the extreme left the Marxists. Once in a Congressional hearing, I referred to this set of categories, and Ronald Mueller, joint author of *Global Reach* with Richard J. Barnet, who was also testifying, bristled, saying he belonged to none of them. Raymond Vernon also claims detachment from all leadership groups — among which he singles out "businessmen, politicials, intellectuals and poets" (vi). I permit myself doubts. I know my place, and he belongs, in my opinion, just where Lall puts us both, among the neo-liberal economists.

One further diversion: in his classic *History of the Bank of England* (London, P. S. King, 1909), A. Andréadès states in a footnote that "toward the end of his life McLeod deceived himself into a belief that he was working by republishing his different books under different titles" (337, note). I flagged this for myself, and believe it worth calling to the attention of all of my generation. Vernon's *Storm over Multinationals* has involved a lot of work in preparation of tables and in organizing a sizeable amount of new literature. In essence, however, it is a redo of *Sovereignty at Bay*. The central theme is the clash between economic efficiency that calls for world-wide organization of production and distri-

bution and the task of government concerned with the welfare of a specific nation.

It is not self-evident that one can blame the title and subtitle of a book on the author, since publishers, including university presses, tend to resist author's suggestions until they get something they think will sell, but the subtitle here, "the real issues," prepares the reader for more than he gets. In the analysis of enterprise strategies, chapters 3 on technology and 5 on "The Struggle Against Entropy" are the product-cycle revisited. The intervening chapter, "The Drive for Stability," deals with what many of us call "defensive investment," that is, the instinct of the large corporation to invest where and how other members of the industry do, although the chapter does not explore the economic costs of such policies and who bears them. The discussion of national objectives has few surprises. In dealing with developed countries, Vernon treats successively (and cogently) national defense, employment, the balance of payments, taxation, transfer pricing, anti-trust takeovers, and the pill industry. All but the last were covered in a book of mine written a decade ago. The same is true of the subject matter of chapter 7 on the developing countries, which covers imperialism, bargaining strategies, transfer prices, rates of profit, consumer sovereignty, joint ventures, and the capacity of host countries to acquire the services provided by the MNC more cheaply and comfortably by "unbundling" or "taking the package apart." I confess some surprise that Vernon does not go more deeply into consumer sovereignty on the one hand, or the capacity of countries, other than Japan, to assemble technology, capital, marketing skill and the like in trying to buy them separately. On consumer sovereignty, he expresses on three occasions his concern that MNCs sell worthless consumer goods in foreign lands, using rather emotive language (13, 144–145, and 163–165), but at the same time observes that Soviet Union "state enterprises chronically produce shoddy goods and persistently disregard consumer preferences" (166). Here is a real issue: if the market does not work, don't use it, provided it is possible to improve on its performance. It is not resolved.

The overall policy conclusion that countries need to work out international machinery for policing the MNC and resolving national conflicts concerning them again is not unfamiliar. I should have liked to see it coupled with a warning that when there is no meeting of minds, as I doubt there is at the present time between developed and developing countries, it may be better to go without agreements and machinery.

Vernon has no proposals beyond consultation for the thorny problem of allocating the income of MNCs to national jurisdictions for the purposes of taxation. On an issue of research, rather than policy, he expresses the opinion that exchange-rates affect the timing rather than the amounts of foreign direct investment (69–70), but the data collected by the Harvard Multinational Enterprise Project are not used to illuminate the question. These data are set forth in nine tables, lacking a list in the table of contents, full statements of definitions and concepts, and statistical tests of significance. They do not seem central to the analysis.

The bibliography on the multinational corporation by Helga Hernes is a straightforward product, very well done. Following a sensible intro-

duction, there are three lists dealing with the MNC as a Large Organization, the MNC and the State, and the MNC in the International System. I doubt that much more than half of the far-ranging sources cited by Vernon in *Storm over Multinationals* are noted. A casual comparison of two pages of Vernon's footnotes shows it is not. The fact that Hernes' bibliography is valuable in dealing with the central issues, however, is borne out in many ways, not least by the fact that Vernon's name appears in the index 18 times, ahead of all the competition.

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200 YEARS OF AMERICAN BUSINESS. ***By Thomas C. Cochran. New York, Basic Books, Inc., 1977. Pp. xiv + 288. $13.95.***

Reviewed by Harold F. Williamson
Professor of Economics Emeritus
Northwestern University

In contrast to the primary concern of economic history with production and transportation, business history, according to Professor Thomas C. Cochran, is chiefly concerned with how policy decisions of entrepreneurs, the organic structure of business enterprise, and methods of marketing shape the economy and affect its growth and development. He notes that the problems faced by businessmen stem basically from the activities of buying, processing, and selling. Each presents challenges that differ both in type and complexity. Buying, for example, the major concern of businessmen during the early stages of industrialization, is a relatively understandable matter of judging quality, price, and possible supply. Processing problems, characteristic of more advanced economies, are somewhat more complex. Depending on the type of business, they may involve the mastering of a new scientific theory, the initiation of an improved technology, or the better utilization of well known routines. It is the solution of the selling or marketing problems, associated with the most advanced economies, that necessitates ventures into the realms of the truly unpredictable, where unknowns can defeat the best laid plans as, for example, markets become glutted, sales campaigns fail, or the physical distribution of goods and services prove inefficient. Professor Cochran questions the validity of the generally accepted, classical approach, which explains the changes in business operations since the Industrial Revolution primarily in terms of responses to advances in technology. He suggests that a greater understanding may come from reversing this traditional approach of focusing on technology, and instead, seeing technical advances as resulting from the demands of individuals motivated by new elements in the business-political-social system.

Using this approach the author has produced an exceptionally well written account of how social customs, values, and types of government have influenced or determined the forms of business organizations and how they have operated in America — compared with Great Britain, France, Germany, and Japan — over the past 200 years. He has, in short, succeeded admirably in achieving his goal of outlining "what may properly constitute the field of business history as distinct from economic or labor history."

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INFORMAL ENTENTE: THE PRIVATE STRUCTURE OF CO-OPERATION IN ANGLO-AMERICAN ECONOMIC DIPLOMACY, 1918–1928. ***By Michael J. Hogan. Columbia, University of Missouri Press, 1977. Pp. viii + 254. $12.50.***

Reviewed by Stephen A. Schuker
Visiting Associate Professor of History
Brandeis University

The notion that Great Britain and America had long cooperated to solve international problems is one of the most durable myths to come out of World War II. Those who have consulted the files at the Public Record Office know how little the idea of hands-across-the-sea appealed to official London in the 1920s. The decade opened with the prime minister telling the Committee of Imperial Defence that the "bellicose attitude" of the United States might drive Great Britain into a defensive alliance with Japan; it closed with the head of the Foreign Office American Department observing that war between the two countries was "*not* unthinkable." The two great English-speaking democracies clashed particularly in the economic sphere. British statesmen could neither adjust to nor easily forgive the financial and commercial supremacy that the United States had secured through the fortunes of war. The Cabinet repeatedly concerned itself with schemes to recover Britain's lost position, to obtain war debt cancellation, and to throw the burden of postwar adjustment on the American investor and taxpayer.

Michael Hogan nevertheless claims to discern an "important pattern of cooperation and compromise" emerging in Anglo-American affairs, not only in cable, radio, and petroleum policy, but – during the middle years of the decade at least – in financial and commercial matters as well. He sees those he calls "multinational financial experts" (by whom he means international bankers in New York and London and some sympathetic policymakers and publicists in Washington) evolving a theory of cooperative capitalism for regulating the world economy. He portrays these individuals as progenitors of a system of informal business-government collaboration for handling international economic problems without returning to unregulated competition or resorting alternatively to state management. He argues that the common efforts of business and public authorities to foster rationalization and stabilization – efforts whose ideology and practice Louis Galambos, Grant McConnell, and Ellis W. Hawley have elucidated for the American domestic economy – extended also to foreign affairs. He expounds this theory at a high level of generality, and perhaps intentionally so; it enables him to lump together Secretary of Commerce Herbert Hoover and those on Wall Street who most frequently challenged Hoover's views. By the very breadth of his formulation, Hogan manages to identify a set of assumptions shared by policymakers and businessmen that influenced American foreign economic policy in the "New Era."

Yet if Hogan makes a suggestive contribution to the intellectual history of American foreign policy, he is less successful in tracing the actual evolution of Anglo-American economic relations. The difficulty stems largely from sketchy research in British sources. For too many American diplomatic historians, archival work still ends at the water's edge. Rather

than explore repositories abroad to determine what policies foreign officials and business leaders pursued toward the United States, they prefer to stay at home, to cite William Appleman Williams and each other. Hogan clearly recognizes the need to advance beyond the prevailing parochialism; he embellishes his footnotes with select references to British Foreign Office files. But he has not tarried long enough in London to comprehend the main thrust of British policy. He invariably portrays planners in Whitehall as true believers in an entente with America when in many cases, the archives suggest, they were making grudging concessions to economic necessity. Moreover, Hogan has everlooked numerous standard works on British finance and diplomacy. He writes about the return to gold without consulting D. E. Moggridge, about the end of the Japanese alliance without mentioning Ian Nish, about Mesopotamian oil without referring to Marian Kent, and about reparations and war debts without citing any of the major books on the subject. Frequent errors in spelling British names reinforce the impression that Hogan is not quite at home with sources from overseas.

The most valuable sections of this book chronicle United States policy on oil, cables, radio, and rubber. Gibb and Knowlton, John DeNovo, and Gerald Nash have previously explored the beginnings of American involvement in Middle Eastern oil, but Hogan enlarges on their findings and adds a lively account of the debate within the administration over redefinition of the "Open Door." He convincingly explains why the British — following the dictum, "better Americans than Bolsheviks" — considered it expedient to reach an accommodation in Persia and Mesopotamia with the Jersey Standard group. Few earlier historians have tackled the seemingly mundane but important international conflicts concerning cable and radio regulation and allocation of scarce raw materials such as rubber. In these areas Hogan breaks new ground, particularly with his fascinating study of the controversy leading to the formation of RCA and the development of radio under private auspices.

But even where Hogan has done his most resourceful archival work, he places the resulting data within a questionable interpretive framework. His treatment of the dispute over cable facilities in Latin America illustrates the point. As Joseph Tulchin has shown, the State Department and U.S. military services pursued a consistent strategic objective in the southern hemisphere — to secure an exclusively-owned system that would prevent the British from monitoring American communications as they had during the world war. The conflict came to focus on landing rights in the Azores, which served as a key transmission center for cable traffic between South America and Europe. The British Foreign Office put pressure on Portugal to deny licenses to American cable companies until they reached agreement with the British-owned Eastern group. Eventually the American companies knuckled under and struck a deal that thwarted their own government's security objectives (the U.S. minister to Portugal called them "pikers . . . unmoved by any patriotic considerations"). Hogan somehow manages to celebrate the result as an example of Anglo-American cooperation at the private level. In his own inimitable prose: "The State Department followed the cooperative thrust of private policy and combined a reciprocal abandonment of monopolies with a

readiness to accept Anglo-American cooperation in handling United States-South America traffic."

Despite these flaws in logic and diction, Hogan performs a real service by showing in some detail how, in the 1920s, the accommodation took place between the chief ascending commercial power and the power it was replacing. It is currently fashionable to criticize American foreign economic policy in that decade from two diametrically opposed points of view. On the one hand, the United States is said to have failed to offer economic and financial leadership. It did not maintain a market for distress goods; it did not provide counter-cyclical loans; and it did not make domestic sacrifices to support world liquidity in a crisis. On the other hand, America is faulted for ruthless business expansion at the beginning of the multi-national era. Hogan's topical survey demonstrates the emptiness of both these indictments. He is right to contend that American business leaders generally sought international cooperation and that they acted more responsibly in world economic affairs than current historical orthodoxy would concede.

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THE BRITISH INSURANCE BUSINESS 1547–1970. ***By H. A. L. Cockerell and Edwin Green. London, Heinemann Educational Books. Pp. xiii + 142. £5.00.***

Reviewed by Joseph G. Romans
Retired Senior Vice President
Royal-Globe Insurance Companies, N.Y.

In acknowledging the assistance given them, the authors state that the theme of their book is a survey of the insurance business archives, which grew out of an idea emanating from the Chartered Insurance Institute, the professional education arm for the insurance business. This organization prescribes studies, offers opportunity for study to groups at local chapter locations, encourages research and review of timely insurance subjects, and conducts examinations leading to receipt of the coveted designation of Fellow of the Chartered Insurance Institute (C.I.I.F.).

The insurance business in England is a unique industry function, as it has played such an important part in the industrial development and growth of its far-flung empire. It invariably follows that the business archives that are inextricably tied to the history of the empire are among the oldest and largest collection of business records in Great Britain.

The book is divided into two parts, the first being a very brief history of each of the major lines of insurance: marine, fire, life, and accident. Accident Insurance by definition in England embraces what we in the United States generally assign to casualty and liability insurances. It is a more recent development in England, in contrast to the established marine, fire, and life branches.

It would seem that having embarked on the research of the archives, the authors found themselves with an overabundance of historical data, and because of limitation of space allotted, or perhaps by design, literally jammed it all into the relatively short book. Consequently, the material is very sketchy indeed. It is certainly not a book to be read for an evening's pleasure. On the other hand, it is a meticulous catalogue of

information about the insurance business in Great Britain, and only loses some of its lustre because of the condensing of historical data. Thus, the material becomes laborious to read and perhaps more difficult to retain.

The notes at the end of each major section of Part One are an excellent source of additional data and extremely helpful to further exploration. Equally, the section on sources for further reading should be noted by those interested in pursuing this historical journey.

Chapter 5, "The Financial Framework of British Insurance," is notably interesting, and reading it is almost an exciting experience as it traces some of the early attempts of the newly formed companies to raise capital, and recites background records of the failures, amalgamation, and mergers of various important insurance companies in England. Reference to several Acts of Parliament and enacted laws shows clearly the favorable climate created for growth of the business at a time when the empire was expanding in various parts of the world. This favorable climate, having its origin 300 to 400 years ago, continues even today, although the reasons for its existence may be different. Unfortunately, the authors may have passed up a golden opportunity to expand this historical data since only scanty information is given concerning the formation of insurance companies by local wealthy merchants or special trade groups who were at odds with the then-existing insurance companies over coverages and rate levels.

Part Two is a study of the Insurance Companies. Arranged in alphabetical order according to their full current titles (1972–1975) or, if defunct, under the title at the time of liquidation or amalgamation, the history and records of some 300 British companies are outlined. Changes in ownership and purchases of other companies is linked into the abbreviated record. The source and location of the material gathered for this study is also indicated. All in all, this section of the book demonstrates the dedication and loyalty of the authors to the regimen of their laborious undertaking, which will be helpful as source material for students and researchers in the future. This chapter then should be a quick and ready entry into the history of prominent British insurance companies.

Additionally, other sources of information and records appear in Part Two, such as Marine Insurance Underwriters, a guide to risk books, and in Section 4 of this part, a guide to various insurance organizations and related Insurance Institutes. The latter section should be of inestimable value to future researchers in this field as the data though very brief, describes the activities of the Institutes and their locations.

The Index belies the prodigious volume of information contained in the book since it hardly begins to tabulate the information. However, as mentioned previously, the notes at the end of each major section are subtantial and full.

The contents of this book were developed within limited and prescribed perimeters, and thus its message is parochial; but my assessment is that it is a good survey of major divisions of the British insurance business. By their own admission, the three years prescribed for the writing of this book was not sufficient time to research more recent developments in coverage, such as, aviation, and perhaps more important, the growth of the British reinsurance market, which provided the back-up capital for the fledgling insurance companies starting up in new

countries as well as enabling existing insurance companies in other parts of the world to underwrite large and unusual risks with reinsurance back-up in Lloyds and British insurance companies.

One has to read only a few pages of each section to realize that the work is very substantial; and if I may inject a personal note regarding my own involvement in the history of British insurance throughout the years of association with a prominent British company doing a varied insurance business in the United States, such a work as this under review would have been a valuable source of information when I was writing material for insurance publications and in my affiliation in the insurance business. The background and wealth of historical data contained in this book literally cries out for future expansion, and each section that now appears in such abbreviated form could and should become a major work for some future enterprising researcher. This book is not an end in itself; it is only a beginning, having laid a sound foundation of historical data on which to build for the future.

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BALANCE OF POWER OR HEGEMONY: THE INTERWAR MONETARY SYSTEM. ***Edited by Benjamin M. Rowland. New York, New York University Press, 1976. Pp. xviii + 266. $10.95.***

Reviewed by Larry Neal
Associate Professor of Economics
University of Illinois, Urbana-Champaign

This is the second book published by the Lehrman Institute, a private, nonprofit operating foundation begun in 1972. A preface explains that the goals of the Institute are to encourage interdisciplinary study (history, politics, and economics) and to contribute to "nonpartisan debate on contemporary policy issues" (ii). The central policy issue addressed here is whether a leader of the world economy is needed to resolve the present, continuing crisis of the world monetary order. The central tendency of the essays is to reply in the negative and to assert the advantages of achieving balance of power among a few blocs that are competitive politically but cooperative economically.

The essays are contributed by an apparently closely-knit group of scholars. Both Harold van B. Cleveland, "The International Monetary System in the Interwar Period", and W. H. Bruce Brittain, "The Relevance of Political Leadership to Economic Order: Evidence from the Interwar Period," are with the Economics Department of the First National City Bank; Judith L. Kooker, "French Financial Diplomacy: The Interwar Years," and Benjamin M. Rowland, "Preparing the American Ascendancy: The Transfer of Economic Power from Britain to the United States, 1933–1944," both received their Ph.D.'s in European Studies at The Johns Hopkins School of Advanced International Studies. Finally, Robert J. A. Skidelsky, "Retreat from Leadership: The Evolution of British Economic Foreign Economic Policy, 1870–1939," and David Calleo, "The Historiography of the Interwar Period: Reconsiderations," are both Professors of European Studies at The Johns Hopkins School of Advanced International Studies.

Congenital defects from excessive inbreeding may arise in later books

from the Lehrman Institute if this practice continues, but they are not apparent here. This is a surprisingly coherent and cogent collection of interrelated essays. Each explores an aspect of the important theme that a hegemonic system of international finance is not necessarily superior to one characterized by a balance of power. The pre-1914 gold standard is characterized as a hegemonic system, as is the Bretton Woods system from 1944 to 1971. Since the functioning of the international economy in both periods was clearly much superior to that in 1919–1939, when Great Britain could not, and the United States would not, act as hegemon, the authors have set themselves collectively a very difficult task.

The task is divided into manageable chunks. The essays by Kooker and Skidelsky are rather more sympathetic to French policies before 1936 and less to British policies after 1931 than is fashionable nowadays. Kooker explains the French position in rational terms from a political viewpoint without lapsing into Anglophobia or gold standard mythology. Skidelsky criticizes Britain's obsession for special arrangements with the remnants of the Empire, epitomized by the Ottawa Agreements of 1932. Rowland, on the other hand, suggests that much of Britain's ineptness in the 1930s was the result of American determination to remove the potential of a British challenge to the emerging hegemony of the U.S. Cleveland's opening essay concludes that hegemonies have operated best, but speculates they may also be inherently impermanent. The reason, fundamentally, lies in the limited resources ultimately available to the hegemon as it pursues both political goals of domination and economic goals of opulence. He believes the Tripartite Monetary Agreement worked well, if briefly, from 1936 to 1939, and suggests that it is an appropriate model for a pluralistic system capable of resolving the systemic crisis of the 1970s. Evidence in support of this thesis is offered in Brittain's essay. Unfortunately, the essay is more technical than the others, making it less accessible to most readers. For the technically-minded, it has too many typographical errors and too few explanatory notes to resolve the resulting confusion.

All in all, the essays are provocative and often persuasive. They may well contribute to a major revision of the economic and financial history of the interwar period. The historical research necessary to validate or to elaborate the various conjectures is not attempted, however. There is no treatment of the German experiments in various international monetary devices. This omission is particularly troublesome since Germany was the most innovative nation in the interwar period and, arguably, one of the most successful. While all the authors agree that nations must come to terms with the trade-off between the exercise of political power and the pursuit of wealth, none deals with the economic costs of the political losses that may be unacceptable but that may be necessary to achieve a well-performing international monetary system. The economic workability of the Tripartite Agreement during the very years that Nazi militarism became rampant gives small solace to readers concerned about the implications of present-day economic pluralism in the West and rising Soviet military strength. If the Lehrman Institute can contribute to the resolution of these further issues, professional historians as well as contemporary policy-makers will be greatly indebted.

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SCIENCE AND CEREMONY. THE INSTITUTIONAL ECONOMICS OF C. E. AYRES. ***Edited by William Breit and William Patton Culbertson, Jr. Austin, University of Texas Press, 1976. Pp. xviii + 210. $14.95.***

Reviewed by Alfred S. Eichner
Professor of Economics
SUNY at Purchase

Festschrifts, memoirs, and similar collections seldom work out to be more than a kind gesture to the subject's vanity. This book is an exception.

Following Kenneth Galbraith's introduction, which could well take the place of this review, and an exquisitely done biographical sketch by the co-editors, the book immediately reveals its serious intention with a series of critical assessments of Ayres's contribution to economics. As Galbraith points out, "The essays in this volume are not meant as a monument to Ayres. They are meant to tell us what he thought and what he did."

Ayres is best known for his book, *The Theory of Economic Progress*, which picked up certain of the technological themes in Veblen's work to produce a highly original conception of societal development and mark its author as one of the key figures among institutionalists, the only native American school of economics. A. W. Coats, in "An Interim Assessment," places this as well as the larger body of Ayres's writings in context, pointing out that Ayres gradually evolved from a detached commentator on institutionalism before 1940 to one of its principal spokesmen by 1950. In chronicling the evolution of Ayres's thought, Coats is sympathetic yet unrelenting in his judgments. "Ayres's relationship to the mainstream of American economics," Coats writes, "was always that of an outsider, a marginal man, a philosophical critic rather than a practicing economist. . . . Despite widespread and highly miscellaneous dissatisfaction with economic orthodoxy, there is as yet very little evidence of interest in the core of Ayres's system – the instrumental [or technical] theory of value. . . . Thus, as a system builder, it appears that Ayres has earned few literal disciples, and his general theory has not as yet been fruitful in the sense that others have tried to follow his example and elaborate his central issues." Much as institutionalists like this reviewer would have it otherwise, we must recognize the truth in Coats's assessment.

In "Ayres on the Industrial Revolution," R. M. Hartwell offers a judgment as to why Ayres's work has had little impact on economic history and even on the theory of economic development. Hartwell recognizes the virtues of Ayres's approach. "It does highlight a continuing characteristic of human societies – technological change – and it emphasizes the cumulative character of technological change." It is, moreover, long-term in its perspective, covering the whole of human history. Still, the theory has serious disadvantages. First of all, it makes man and his institutions appear as the main obstacle to progress – at best only a half truth. This is a point of criticism picked up by Herbert Frankel in the following essay, "Clarence Ayres and the Roots of Economic Progress." Secondly, Ayres's approach ignores the other factors besides technology making for change, a point elaborated on subsequently by Spengler in "Limits to Growth: Biospheric or Institutional?" But most of all, says

Hartwell, Ayres's theory lacks precision and explanatory power. "Ayres could not explain spurts and lags in progress, revolutions and stagnations, differences in performance between societies. . . ."

Isolating these critical judgments from the more general, appreciative comments among which they appear may make them harsher than was intended. Even so, taking these judgments as fair ones – as I think they ought to be – they nonetheless ignore perhaps the more important point. After all, Ayres, because of his well known antipathy to the axiomatic economics that prevailed during his day, could not count on an appointment to one of the half dozen or more most prestigious graduate departments. It was a tribute to his powers as a teacher, vouched for by Marion Levy in his essay, "Clarence E. Ayres as a University Teacher," that not only did a number of Ayres's students go on to become well known academicians, but also he almost single-handedly founded the "Texas school of economics." The interesting question, then, is what would have been the impact on economics if Ayres had been placed in a more strategic position from which to influence the next generation of graduate students and scholars – if, for example, it had been Ayres and not Schumpeter who obtained the chair at Harvard from which emanated the paradigms in business history and economic development that would rule the academic world in the 1950s and 1960s.

The basis for judging the life's work of a major figure in economics is not whether his theoretical system is beyond criticism. To a succeeding generation, the work will almost invariably appear underdeveloped and inadequate. Rather the point is whether the theoretical system, incomplete as it may be, pushes the discipline on to productive lines of inquiry without closing off others. Here is where the comparison with Schumpeter is revealing, he being only the most outstanding of Ayres's contemporaries relative to his strategic position within comparable fields. Would economists be less further along in understanding the process of development if their research had been guided by Ayres's emphasis on technology rather than Schumpeter's emphasis on entrepreneurship? And would we in this country still be so far from absorbing the critical message of *The General Theory* if it were Ayres, with his greater sympathy for Keynes's theories, who had been the doyen at Harvard? We can only speculate on these matters. Still, there is the evidence from the book.

For example, Walter Rostow's essay, "Technology and the Price System," which is a brilliant extension of Ayres's work, might have been written sooner, to the benefit of all discussion on the subject. From Alfred Chalk's essay, "Ayres's Views on Moral Relativism," one can surmise that there might have been a more honest recognition of the values underlying economic analysis. And from James Buchanan's essay, "Methods and Morals in Economics," it seems reasonable to conclude that the sources of market failure might have been systematically explored at an earlier date.

Of course, there are good institutional reasons why Ayres, with his well known views, was not more strategically placed, that is, made a professor at one of the three or four leading universities of his day. And if, by some fluke, this had nonetheless happened, he would most probably, if Veblen's analysis is correct, have simply become another conventional

economist. That, as the essays in this book indicate, would have been the greatest loss of all to economics.

William Breit and William Culbertson, in producing this book, have pointed out the only true way to honor a scholar, and that is by taking his ideas seriously. They have also, it should be noted, performed a masterful editing job.

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THE RISE OF THE CORPORATE ECONOMY: THE BRITISH EXPERIENCE. ***By Leslie Hannah. Baltimore, The Johns Hopkins University Press, 1976. Pp. xii + 243. $15.00.***

Reviewed by Peter L. Payne
Professor of Economic History
University of Aberdeen

During the course of the present century "British industry has witnessed a transformation from a disaggregated structure of predominantly small, competing firms to a concentrated structure dominated by large, and often monopolistic, corporations" (1). In this fine study, Leslie Hannah provides a precise account of the dimensions of this change and why and how it has taken place. To achieve this purpose the author has synthesized a vast and scattered literature on the history and economics of the firm and, where appropriate, has filled out the resulting picture with the fruits of an investigation into numerous business records in private hands and the Board of Trade papers in the Public Record Office. The result is an exceptionally valuable contribution to what Professor Alfred D. Chandler – in a helpful Foreword to the book – has called institutional economic history (ix). Readable and convincing, the fascination of this study owes much to its rare and elegant blend of well-researched historical narrative and effective, yet unobtrusive, economic analysis. It promises to become the standard work on this important subject.

At the heart of the book is Hannah's analysis of the statistics of merger activity and industrial concentration in the United Kingdom during the twentieth century: an analysis that partially draws on a study that he and John Kay have recently completed and that is about to be published. This reveals that the crucial periods in the formation of the modern corporate system in Britain were the two decades of the 1920s and the 1960s. The great merger waves that occurred then are ascribed to efforts to achieve a whole range of scale economies and by the pressing need to solve the problem of excess capacity, much of it generated during or immediately following World War I. Furthermore, the ability of the industrial firm (and it should be emphasized that Hannah confines himself to manufacturing industry) to grow was greatly enhanced by a series of organizational developments and technical advances (e.g., the telephone: "perhaps the most important new instrument of communication to become available to managers" [86]) that pushed back the managerial limits both to the absolute size and to the rate of growth of the firm. In the 1960s, similar forces were at work, but they were reinforced by political changes and by government policies toward industry, by the intensification of competitive pressures and, by American standards, the belated demise of concentrated, often family-linked, patterns of company ownership.

Such a brief summary cannot do justice to the richness of this book. Of the reasons for, and consequences of, the growth "of giant companies" – to use an expression first employed in Great Britain by Alfred Marshall – much has been written by the participants themselves, by the often surprisingly penetrating contributions to *The Economist* and to contemporary trade and investment journals, and by witnesses before official inquiries (some of whose evidence has never previously been employed by either economists or economic historians). Where Hannah breaks new ground is in his explicit examination of the role in all this of government agencies, developments in the stock market and, of especial interest, changes in business organization and managerial techniques. To American readers, weaned on Chandler's *Strategy and Structure*, much of what took place, and much of what failed to take place, will have a familiar ring. In a sense, Hannah has examined the British economy in the light of Chandler's pioneering work. It is now up to others to illustrate the story more fully and to make further international comparisons. Indeed, much detailed work is already underway, some of it being represented in what might usefully be regarded as a companion volume, edited by Leslie Hannah, *Management Strategy and Business Development* (London, Macmillan, 1976). Perhaps, too, I might draw the attention of readers of this journal to the study by S. J. Prais, *The Evolution of Giant Firms in Britain* (Cambridge, England, Cambridge University Press, 1976). At one time, the British in this, as in so many economic and academic matters, were lamentably slow in "catching up" with their transatlantic counterparts. It might be said that now we have not all that far to go.

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ECONOMY OF EUROPE IN AN AGE OF CRISIS, 1600–1750. ***By Jan de Vries. New York, Cambridge University Press, 1976. Pp. xi + 284. $13.95, cloth; $4.95, paper.***

Reviewed by Christopher R. Friedrichs
Assistant Professor of History
University of British Columbia

The years 1500 to 1750 – the period between the Middle Ages and the Industrial Revolution – are generally regarded as a single phase of European economic history, especially when it comes to writing textbooks. One need look no further than the *Cambridge Economic History of Europe* or the more recent *Fontana Economic History* to see that this is so. Thus, one is surprised to find an introductory text on early modern economic history that confines its attention exclusively to the second half of this period.

It is a welcome surprise, however. For Jan de Vries, an economic historian at Berkeley, has not only produced a concise and clearly-written volume with the kind of coherent structure inevitably lacking in multiauthored histories; he has also made a thoroughly convincing case for dealing with the period 1600–1750 as a distinct unit of European economic history.

The sixteenth century was an age of demographic growth, price inflation, and general economic expansion. The mid-eighteenth century on-

ward was, of course, an age of explosive economic growth associated with the Industrial Revolution. During the century and a half between these two epochs, however, the rate of population growth was reduced while industrial output, the volume of trade, and prices all levelled off. It was, in short, a period of economic contraction.

To Professor de Vries it was, in fact, an "age of crisis." Yet "crisis" is not equated with stagnation; rather, this period is perceived as one that posed grave economic challenges to the various nations and social groups of Europe. The economies of some countries, notably those of the Mediterranean basin, succumbed helplessly to these challenges. Others, however – especially England and the Dutch Republic – not only rose to the occasion but actually exploited the changed economic climate to improve their competitive position within the overall European economy. The dramatic redistribution of economic strength from southern to northwestern Europe, which occurred largely as a result of these differing responses, is one of the major themes of de Vries' book.

An equally important theme involves internal changes in the economies of many European countries: the growth of the market sector, the spread of the putting-out system, and the steady increase of agricultural and industrial specialization. All of these changes were linked, directly or indirectly, to the general economic crisis – especially to the drop in prices of basic foodstuffs and the corresponding growth in demand for "luxury" foods and manufactures.

None of this will come as much of a surprise to economic historians or to specialists in early modern history. But historians who appreciate a lucid and sophisticated exposition of familiar material may appreciate this book quite as heartily as their students – or perhaps even more so. De Vries is scarcely generous with anecdotes and examples, and his book offers little in the way of period flavor, but all the essentials are there. The first half of the book concentrates on three major sectors of the European economy: agriculture, industry, and long-distance trade. The remaining chapters examine the growth of regional trade (which, as a whole, the author regards as more important than overseas trade); the expansion of demand; the extent and forms of investment; and the economic role of governments. To his obvious expertise in economic matters the author adds an impressive familiarity with recent work in social history. Of course, informed readers will find some omissions and points to dispute. I, for one, regret that de Vries treats the putting-out system only as a rural phenomenon, ignoring the extent to which the same form of industrial organization made headway in cities during this period. Others may complain that (as the author concedes) central and eastern Europe have not received sufficient emphasis. But the price of compression is always selection, and Professor de Vries should in fact be commended for squeezing most of what is important about 150 years of European economic history into a text of scarcely 250 pages.

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GROWTH IN AMERICA. ***Edited by Chester L. Cooper. Westport, Conn., Greenwood Press, 1976. Pp. ix + 262. $15.00.***

Reviewed by Stuart Bruchey
Allan Nevins Professor of
American Economic History
Columbia University

As everybody knows, most of the first quarter century after World War II were years of rapid growth in the West, and during these years the main concern of economic theorists in university Growth Centers and elsewhere was the devising of equations that would explain growth in the past and specify the conditions for its continuation and export to the developing world. Few questioned the desirability of growth as a social value and fewer still suggested there might be physical or other limits to it. Then in the late 1960s came, quite unexpectedly, the revolt of the American affluent, led by turned-off students whose surer methods of contraception induced them to challenge the hypocrisy of their parents—who had indulged premaritally themselves while feeling compelled to warn their children of the possible consequences thereof. Attack on the hypocrisy of parents led to attack on institutions and values associated with parents—success, material comfort, the work ethic, power, organization, government, business, and the enterprises deriving from them. There is a linkage between sexual freedom and opposition to the war in Vietnam that is yet to be explored. And to opposition to majorities oppressing blacks, women, homosexuals, and Indians. And to opposition to economic growth as a social value. History that merely describes is merely chronicle. What explains the suddenness of the awareness of the exponential pressure of population upon resources that informs the Club of Rome's *Limits to Growth?* Merely demographic extrapolation? Or that in combination with a relative rise in the prices of foodstuffs, sources of energy, and raw materials in the world economy—a rise that has yet to establish its secular character? Or these in combination with still other things? The questions deserve to be asked.

Essayists in the book under review—an outgrowth of conferences held at the prestigious Woodrow Wilson International Center for Scholars—are well aware of the historic eminence of growth in the American value system and of challenge to that eminence in the 1960s and 1970s. Regrettably they do not probe the complex sources of that challenge, or note that neither the developing world nor underprivileged groups in American society joined in the issuing of it. Sidney E. Ahlstrom traces "the ecological problem" to ramifying roots in the religions of the West, Charles W. Powers analyzes growth as an American value from an ethicist's point of view, and W. W. Rostow, in an otherwise thoughtful piece, mounts his description of recent economic change upon still another stage, "a stage I call the search for quality." While "we still have much to learn about its contours," evidently it comes into being as an automatic response to affluence, especially on the part of the young.

On the central question of whether growth should be abandoned as a social goal Rostow has more interesting things to say. He is cautiously optimistic that technology and the market, abetted by governmental support of conservation measures, will permit the GNP to rise "for a long

time ahead" in an environment of international constraints on resource utilization. Henry C. Wallich also contributes a valuable piece. In a sharply defined analysis of economic growth in America he argues that "attempts to stop it will turn out not only misguided but futile." The real question, Wallich believes, is "how to grow safely." Although a good deal more pessimistically, John Holdren concedes the possibility of further increases in well-being in an intricate analysis of the "interactions of resources and their associated technologies with each other and in the impact of the entire enterprise on the non-technological environment." Holdren's essay is extraordinarily well-informed, realistic, and perceptive.

As some of the concerns of Rostow and Holdren illustrate, many of the essayists implicitly define the problem of growth both in terms of resource scarcity and ecological impact. Samuel P. Hays insists on separating the two. Technology can clean up the environment but it cannot increase the supply of land, air, and water. Even so, it may be suggested, what happens on the demand side is equally important. As several essayists emphasize, the real enemy is population growth. And the price system has been an historically reliable guide to substitution in the use of resources and search for new ones. On this question, as Rostow notes, an economic historian "is, instinctively, an optimist."

No brief review can do justice to the many suggestive essays in this book – to Daniel Aaron's reflections on growth and literature in America, to John Wilmerding's view through the arts, or to concluding essays by Robert H. Walker, Franklin A. Long, Arthur Kantrowitz, and Congressman George E. Brown, Jr. on growth as a factor in America's future — to say nothing of the thoughtful epilogue by Chester L. Cooper. To be sure, in resting as it centrally does on the Club of Rome's first pronouncements on the ineluctable limits to growth rather than upon its subsequent reconsideration of that position, the book has now a somewhat lesser value than it might have had. Yet Samuel Hays' perceptive remark must also be kept in mind: there is "a persistence to the insights [of Limits] that has remained and will remain for a long time to come."

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THE INTERNATIONAL MONETARY SYSTEM: HISTORY, INSTITUTIONS, ANALYSES. ***By Robert J. Carbaugh and Liang-Shing Fan. Lawrence, The University Press of Kansas, 1976. Pp. viii + 168. $12.00.***

Reviewed by Alfred E. Eckes
Associate Professor of History
Ohio State University

In this short volume, Robert J. Carbaugh and Liang-Shing Fan offer a theoretical and empirical analysis of the international currency system's strengths and weaknesses. They employ many graphical examples to explain from the perspective of international economics such problems as balance-of-payments adjustment, liquidity, and confidence.

Based largely on secondary materials, this account does not include either archival research or interviews. Interested principally in technical monetary issues, the authors devote little attention to institutional arrange-

ments, such as the International Monetary Fund, World Bank Group, or central-bank cooperation.

For historians the account offers a succinct explanation of currency issues and recent monetary problems at the textbook level.

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THE ORIGINS OF BRITISH INDUSTRIAL RELATIONS: THE NINETEENTH CENTURY EXPERIENCE. ***By Keith Burgess. Totowa, N.J., Rowman & Littlefield, 1975. Pp. xiii + 331. $19.50.***

Reviewed by Stanley H. Palmer
Assistant Professor of History
University of Texas, Arlington

"The only link between the property owners as buyers of labour and the propertyless class as sellers of labour is the exchange relationship — the cash nexus. . . . The obvious disparity between the buyers and sellers of labour makes conflict inevitable. But the survival of capitalist society requires a solution of conflict, which becomes the task of industrial relations" (ii, iv). In such fashion does the author, Lecturer in Economic History at the University of Glasgow, begin and end (304–306) his investigation of *The Origins of British Industrial Relations.*

Fortunately, Keith Burgess quickly abandons theoretical speculations in favor of detailed factual analysis of the growth of trade unionism in four key industries: engineering, building, coal mining, and cotton textiles. Each forms the subject of an extended essay, averaging 70 pages; the essays comprise the book's four chapters. Burgess has conducted primary research in contemporary trade journals, pamphlets, and Parliamentary reports; for engineering (whose unions, 1780–1860, he studied in a 1970 Ph.D. thesis, University of Leeds), he has also consulted archival records. The majority of Burgess' sources are secondary, being masters' and doctoral theses, books, and an impressive number of journal articles. The bibliography (313–324) and the detailed index are both useful. The British publishers, Croom Helm, whose work the American firm has reprinted, can be faulted for making intermittent blank spaces on pages do the work of chapter sub-headings. The author can be reprimanded for his sub-title, since he says almost nothing about pre-1850 developments.

In each essay, Burgess' style is at once narrative and analytical. Discussion of trade union development invariably follows an exposition of economic trends in the particular industry. In both, his presentation indicates excellent training in economics as well as history. A short review cannot do justice to the sophistication and complexity of Burgess' many arguments. The author makes clear the functional and locational diversity and specialization characteristics of each industry. The long and complicated wage lists make a mockery of any concept of an "average" wage in a particular industry. Especially for cotton and coal, Burgess has clarified for this reader both the hierarchy of labor and the on-site tasks of the workers. He shows that industrial productivity was increased after 1850 not by technological innovation (except in engineering after 1880), but by a combination of other factors — driving up the pace of work (either by machinery speedup, or payment by piecework or results),

"overtime" work, employment of non-union labor, subcontracting, and use of low-quality materials. Among the most interesting sections of the book are those tracing the growth of employers' associations in response to overseas industrial competition and the domestic threat from the unions. Periodically, the masters demonstrated their collective might by regional price fixing and wage cuts and by lock-outs sometimes involving hundreds of firms.

"Labour," assuredly, "was not a homogeneous lump but a variegated amalgam" (307). If each industry had a finely gradated hierarchy of workers, each also had its aristocracy. The fitters and turners in engineering; the carpenters, joiners, and masons in building; the face workers and checkweighmen in coal mining; and the senior minders and sizers and overlookers, in cotton spinning and weaving – these skilled, mostly adult male workers composed the unions. The unskilled were left out: in 1900, three of every four engineering workers were not unionized; in building, fewer than 20 per cent of *skilled* workers were unionized. Even as some of the less skilled formed their own unions, they often found themselves in disputes with other workers. Regional sectionalism also characterized union development. Labor gains were won on the local level, since the national amalgamated societies had affiliated groups with different and occasionally conflicting interests, or, as was often the case, leaders of surprisingly conservative beliefs.

In engineering, the 9-hour workday was achieved in 1872 from local pressure, the Executive Council of the Amalgamated Society of Engineers refusing to take a stand. In the 1890s, even the ASE rank and file, fearing an earnings reduction, opposed a compulsory 8-hour day. In building, the General Secretary of the Operative Stone Masons voted in 1889 for an 8-hour day, against his economic principles, because his men wanted it. In coal mining, where many leaders were Methodists, union officials in Northeast England and South Wales opposed minimum wage demands as impractical in districts where export prices were subject to great fluctuations. In 1868, the Miners' National Union refused to support locked-out workers. The Executive Committee of that body in 1877 joined with employers in condemning wildcat strikes, which it described as "a kind of guerilla warfare . . . now here, now there – far more hurtful to the employers, and . . . to the industrial interests of the country" (190) than were trade union activities. In cotton textiles, disputes were also complex, differences arising between spinners and weavers; coarse spinners (subject to serious overseas competition after 1870) and fine spinners; and cardroom and blowing room operatives and piecers, and skilled workers in general. For example, spinners, who with "a sense of self-congratulation" (247) won a 56-hour week in 1874, came to oppose state old-age pensions and the 8-hour workday for everyone and labor agitation in general. Among spinners themselves, union leaders could, as in 1878, favor a wage cut against the wishes of their rank and file; in 1885 they condemned a strike that followed an employers' lock-out.

Industrial relations, in short, were very complex. In addition to the conventionally understood conflict between employer and employee, disputes occurred between unionized and non-unionized workers (before 1870, a skilled *v.* unskilled distinction), rank and file union members and their leaders, and local unions and the national executive to which they

were affiliated. These relationships, appear to have been more characteristic of industrial conflict in England in the period 1850–1900 than was any generalized antagonism between capitalism and labor.

Some of this reader's twentieth-century afterthoughts? If, according to Burgess, the unions were ignoring the mass of workers, including their own rank and file, then the appeal and power of shop stewards and of unofficial localized strike action in Britain today becomes historically more understandable. As for the employers, their willingness to accommodate the demands of the skilled workers in all four of these labor-intensive industries helped to reinforce post-1850 patterns of low capital investment and technological stagnation, the effects of which would become clearer in the next century.

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BUSINESS IDEOLOGIES IN THE REFORM-PROGRESSIVE ERA, 1880–1914. ***By Alfred L. Thimm. University, Alabama, The University of Alabama Press, 1976. Pp. vii + 264. $9.75.***

Reviewed by Kim McQuaid
Assistant Professor of History
Lake Erie College

Professor Alfred L. Thimm has seemingly set out to write a supplement to the late Herman Krooss' *Executive Opinion: What Business Leaders Said And Thought About Public Issues, 1920s–1960s* (1970). Fittingly, the author dedicates his work to Krooss' memory.

The purpose, as the author notes in his introduction, is to "enhance our understanding of current business opinion, ideology and institutions by tracing their roots and describing their development during a particularly crucial and colorful period of American capitalism" (v.). To accomplish this end, Thimm examines the statements of practicing businessmen (particularly those heading large corporations), investment bankers, editorialists for commercial and financial journals, and, more occasionally, politicians (particularly U.S. Senators) with pronounced business loyalties. These statements are then placed in analytical contexts provided by neo-Classical economics, information theory, and sociology (particularly Weberian bureaucratic theory).

The resulting work is uneven in a number of respects. Individual, rather than collective, utterance provides the focus for Thimm's investigations because, he argues, "trade associations, the National Association of Manufacturers, the Chamber of Commerce, and other modern collective voices of business hardly played a role in the period under study" (vi). Presumably, however, the N.A.M. (founded: 1895), the U.S. Chamber (founded: 1912), and other notable "collective voices" such as the National Civic Federation (founded: 1900–1901) were not mere businessmen's clubs. They existed to serve collective functions regarding ideology, information, and action – as well as to provide contact points with opinionmakers in government and the organized labor movement. To argue that an organization like the National Civic Federation "hardly played a role" in the development of business ideologies in the period this book covers seems to this reviewer to be a self-defeating proposition. N.C.F. membership rosters included Andrew Carnegie, Mark Hanna,

William Howard Taft, Charles Schwab, Samuel Gompers, John Rogers Commons, and hundreds of other academic, financial, corporate, and labor union notables. One need not posit monolithic corporate consensus to argue (as does Robert H. Wiebe, among others) that organizations such as the N.A.M. and the N.C.F. are key collective components in comprehending business opinion of the Populist and Progressive eras. Thimm certainly knows of such organizations – and the literatures surrounding them. I admit to being puzzled as to why he did not try to interweave relevant concepts from Wiebe, *et al.*, within his own narrative.

Thimm's work is also complicated by an assumption that his readers are *already* familiar with a great deal of the specific information that he presents. In chapter three, for example, he introduces, with no preface whatsoever, the "Gary-Perkins wing of the new professional management" to his readers' attention. Specifics as to what is meant by the Gary-Perkins wing" are not provided until chapter eight. Such assumptions are somewhat gratuitous in an age of academic over-specialization. Perhaps the author might have been better advised to state straightaway that his work was intended for American business historians; as it is, students are going to have a rough time with this book. Thimm generally refers to persons by last name alone. This can produce occasional unfortunate consequences, particularly when references are made to "outstanding intellectuals" of the period like "Howell" (William Dean Howells), "Frank Morris" (Frank Norris), and, on several occasions, the "Bryant" (William Jennings Bryan) movement (6,9,178). Plainly, such persons were not all that familiar to the author's editor. Nor, for that matter, am I as ready to assume as the author is that even American business historians realize, for example, that: "It was, of course, (Thorstein) Veblen more than anyone else who analyzed the consequences of the separation of (corporate) ownership and control" (179). How many students – or faculty members for that matter – have ever heard of or read Veblen's *Absentee Ownership* or his *Engineers And The Price System*?

This work has its strong points. Among them is its explication of how capitalist concepts of "competition" changed from classical price competition to the "vague political notion of biological competition" of the Social Darwinians and the "scientific (non-price) competitive perspectives of oligopolists and financiers. Here, the author's conceptual architecture and argument is generally concise and clear. So, too, is his brief discussion of the glaring non-sequiturs in contemporary business ideologies and his explication of the neo-feudal aspects of the thinking of financiers – J. P. Morgan in particular. Like his former friend and teacher Herman Krooss, Thimm has found that businessmen have persisted in enunciating industrial capitalist ideological rationales that have very little to do with corporate reality – whether in the 1910s or the 1970s. Such fossilization of business opinion has, Thimm notes, impeded the development of an organized entrepreneurial philosophy. Such a philosophy, if formulated, would, Thimm argues, serve as the basis for "the first truly conservative force in American history since the demise of the Whigs" (200).

To conclude, then, I believe that *Business Ideologies In The Reform-Progressive Era* will be primarily useful to established business historians who have already done large amounts of primary research work. The main value to students will likely be provided by Thimm's use of socio-

logical concepts (particularly in his footnotes) to explicate patterns of change within corporate bureaucracies.

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SUBURBANIZATION AND THE CITY. ***By Thomas M. Stanback, Jr., and Richard V. Knight. Montclair, New Jersey, Allanhold, Osmun and Company Publishers, 1976. Pp. xvii + 230. $19.50.***

Reviewed by Louis P. Cain
Associate Professor of Economics
Loyola University of Chicago

Thomas Stanback and Richard Knight argue that there exists a symbiotic relationship between central cities and suburbs, and they demonstrate how that relationship altered and intensified during the 1960s. Their focus is on manpower resources; a focus of the "old urban economics." They find that approximately two-thirds of suburbanites' income is generated through the central city, and this suggests that suburbs, in general, are still a long way from economic self-sufficiency. Central cities provide the cultural amenities demand by suburbanites, and many of these amenities require the support of suburbanites. The authors argue that the economic viability of central cities is of the utmost importance to suburbs; their principal policy-conclusion is a call for planning that considers the metropolis as a unit, regardless of whether the planning is undertaken by the central city, suburb, or some regional authority. All of this is perhaps of little interest to business historians, but the data Stanback and Knight present (mainly from the 1960 and 1970 Censuses of Population and the Social Security Continuous Work History Files) will prove interesting to business historians attempting to explain changes in the locational pattern of work and residence since 1960. Data restrictions have limited their study to ten metropolitan areas, but the results appear consistent with a wide range of cities. Stanback and Knight appear to make their points, but the book's organization diminishes the confidence with which one accepts their conclusions.

After an introductory essay by Eli Ginzberg, there are several chapters of text, and several appendices. The climax of the book's plot comes in Ginzberg's essay. Several chapters of the main text seemingly stand alone; the authors provide few transitions. This impression is furthered by the fact that each chapter has a summary which repeats the main themes for the third or fourth time. The body of each chapter is a description of the data and statistical techniques used to test the various hypotheses corollary to the symbiosis hypothesis. The work is done competently, but the writing is unnecessarily pedantic. Each part of each table is discussed, and, if one particular argument explains several parts of one table, it is repeated each time. For example, higher labor force entry rates for women crops up in several places, and each time it is explained as the result of the comparative advantage of women in the growing business services sector and their higher turnover rates.

The authors' notation is often unclear and confusing. "JI" and "JD" first appear in Table 3.3, but one's suspicion that these stand for job increases and decreases is not confirmed in the text. It is only confirmed by reading the notes for another part of the table. Similarly, in Table

3.2, Business and Allied Services are defined as (MBS-TCU) and Consumer Services are (MCS). In Table 3.3, Mainly Business Services and Mainly Consumer Services appear written out in words and appear to be equivalent to (MBS-TCU) and (MCS) in the previous table. In Chapter 5, TCU (transportation, communication, and utilities) is separated from MBS for the first time; this is also the first time the reason for the additional letters is comprehensible. This sort of sloppiness makes one wonder about the comparability of the statistics. In short, this book is much more difficult reading than it should be.

The book does have an important message, that central cities and suburbs are not separate entities; each is dependent on the other. The flight of some businesses from the central city has been a rational economic response to changes in production and wholesaling technology, transportation technology, and land prices. The movement of corporate headquarters in the direction of airports is also rational economically. One result of this has been to enhance the central city's comparative advantage in business services. Another result has been changed residential patterns. Stanback and Knight have provided data for these changes during a crucial period. They should be of considerable use to business historians of the future. The book's editorial deficiencies detract from its contribution to our knowledge, but it should not lessen its significance.

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DAVID ECCLES: PIONEER WESTERN INDUSTRIALIST. ***By Leonard J. Arrington. Logan, Utah State University, 1975. Pp. xvi + 294. $7.95.***

Reviewed by James E. Fell, Jr.
Assistant Editor
Arizona and the West
University of Arizona

When David Eccles fell dead on a street in Salt Lake City in December 1912, he was president of sixteen industrial companies and seven banks, a director of twenty-four other firms, and a stockholder in still another seventy-six enterprises. He was probably the richest man in Utah and left behind a fortune of more than $6,000,000. While this was not the largest sum ever amassed in American business, Eccles had certainly done well, for he had risen from poverty in Scotland to wealth in the United States. Moreover, he had made significant contributions to the development of the lumber and sugar beet industries of the intermountain West, and his business ventures had drawn the path of Mormon settlement into Idaho and Oregon.

Yet Eccles' origins did not presage such achievement. He was born in Scotland in 1849, the son of a blind woodturner who eked out a precarious living in the squalor of Paisley and Glasgow. Eccles received little formal education, but he did learn about business, for from his earliest years he peddled resin sticks, kitchen utensils, and other household goods in order to help the family survive. During this time Eccles' parents joined the Church of Jesus Christ of Latter-day Saints, and in 1863 the family emigrated to the United States with the assistance of the Perpetual Emigration Fund created by Mormon officials.

Once in Utah, the family settled in Ogden, and this would be Eccles' principal home and base of operations for the rest of his life. He spent his first years in the United States peddling goods, and working as a lumberman, freighter, and coal miner. Then in 1872 at the age of twenty-three, he went into business for himself as a log supplier to a sawmill near Ogden. Once in the lumber business, Eccles prospered. He found able associates in Thomas D. Dee and Charles Nibley, and with them and others he gradually built a network of independent lumber companies operating in Utah, Oregon, and Washington. They formed the basis of his fortune and gave him the springboard with which to enter other industries.

And as the years passed, Eccles found many opportunities, particularly after 1890. He helped pioneer the sugar beet industry of Utah and Idaho, founding several firms later sold to the American Sugar Refining Company. He participated in the construction of short line railroads, engaged in banking throughout northern Utah, and developed interests in construction, food-processing, insurance, coal mining, and electric power. Particularly notable was his role in the formation of the Utah Construction Company, which built a major segment of the Western Pacific Railroad and later emerged as a forerunner of Utah International, one of the world's great mining firms (recently acquired by General Electric).

Eccles' business activities had two salient characteristics. For one, his associates were usually Mormons like himself, and his firms employed Mormons wherever possible. Yet these preferences necessarily declined in later years as his enterprises expanded the scope of their operations. For another, Eccles does not appear to have envisioned the creation of an empire in lumber or an empire in sugar controlled through a holding company. He may well have been moving in this direction with the formation of the Oregon Lumber Company in 1889 and the Amalgamated Sugar Company in 1902, but he nonetheless continued to organize independent firms in these and other industries.

Certainly, David Eccles was an individual who made important contributions to the economic development of the intermountain West, and in Leonard J. Arrington, he has found an able biographer. This book is a fine study — well-written and well-researched — but still, we would like to know a great deal more about Eccles and his various enterprises. His role in the secularization of business in Utah is often asserted but never explored in detail. And we would like to know more of Dee and Nibley, who were involved in so many of Eccles' ventures. Then there are other questions, intriguing and unanswered. Where and how did Eccles raise capital for his many firms? To what extent did his business relations with Heber J. Grant and other Church officials influence his entrepreneurial activities? And what was the precise nature of Eccles' dealings with non-Mormons like Henry O. Havemeyer of the American Sugar Refining Company? David Eccles may never receive another biography, but the field is certainly open for articles that would explore different facets of the career of this interesting entrepreneur.

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REUBEN FLEET AND THE STORY OF CONSOLIDATED AIRCRAFT. ***By William Wagner. Fallbrook, California, Aero Publishers, Inc., 1976. Pp. xi + 324. $16.95.***

Reviewed by Otto H. Reichardt
Graduate Student in History
University of California, Santa Barbara

William Wagner's tribute to Reuben Hollis Fleet primarily describes how an unusual executive created one of the leading firms in the American aircraft industry of the 1920s and 1930s. While other entrepreneurs took advantage of opportunities in expansive sectors, Fleet successfully entered a field in which demand remained low throughout most of the interwar period. Although he used privately owned resources, his success stemmed mainly from taking advantage of information and capital supplied by the federal government.

In 1917 at the age of thirty, Fleet left his successful real estate and timber business in Montesano, Washington, and joined what later became the Army Air Service. By the time he retired in 1922 as Contracting Officer for the Air Service's Engineering Division, he had learned about training planes, aircraft manufacturing, modern administrative methods, the marketing of defense products, and private sources of capital and technological information. Fleet organized Consolidated Aircraft Corporation a year later and soon became a major supplier of military training planes. By maintaining close ties with federal officials, Fleet gained additional information. Aided by a 1928 Navy study of flying boat hulls, he produced commercial and military seaplanes that were forerunners of Consolidated's famed PBY series flown during World War II. Work on ever larger flying boats provided Consolidated engineers with the experience needed to produce long-range bombers demanded by the Army Air Force during the late 1930s.

Fleet's government contacts supplied valuable capital as well as information. Soon after forming Consolidated Aircraft, Fleet moved operations to a leased government plant in Buffalo, New York. In 1935 loans from the Reconstruction Finance Corporation aided Consolidated's move to San Diego, California. Federally supplied capital then helped the firm to expand into a truly large corporation prior to World War II. Fleet's alertness to the effects of public policy finally led him to sell his firm. He avoided the costs of high wartime taxes by selling his interest in Consolidated Aircraft in November 1941. After the sale Fleet watched his firm become part of the Convair Corporation in 1943 and then part of the General Dynamics Corporation in 1953.

Unfortunately, the tribute to Reuben Fleet is marred by poor organization and analysis. Critical analysis of interviews with Fleet and other primary material is avoided by allowing the sources to "speak for themselves." The author weakens the work's organization by describing the formation of Consolidated Aircraft before examining earlier events that led Fleet to enter the aircraft industry. He then compounds his problems by including extraneous material, such as his personal friendship with Fleet, while neglecting more important issues. Thus, there is no attempt to explain the contradiction between Fleet's belief in the value of private competition and his heavy reliance on federal resources. Further, the

author raises more questions about Fleet's managerial effectiveness than he answers. Contemporaries criticized Fleet's detailed supervision of Consolidated's internal operations. Yet, the author emphasizes only the personal costs of Fleet's managerial style. Two of Fleet's three wives divorced him when supervisory tasks forced him to ignore his family. With employees Fleet punctuated his paternalistic concern for their welfare with towering rages over their mistakes. What is neglected is analysis of the impact of Fleet's temperament on his effectiveness. Underlying all of these problems may be the author's apparent failure to consider the relevant secondary literature. Alfred Chandler's description of institutional change, John B. Rae's history of the aircraft industry, works by Paul A. C. Koistinen and others on the development of the military-industrial complex during the interwar period, and numerous articles on the economics of aircraft manufacturing could have been used to determine the critical issues and to organize the primary material.

Despite the drawbacks of Wagner's approach, he does point toward a useful revision of conventional treatments of relations within the military-industrial complex during the interwar period. Scholars have generally emphasized the contribution of business leaders like Bernard M. Baruch in mobilization planning. They have ignored, however, the role played by federal officials in creating lucrative opportunities in defense industries and thus guiding firm expansion. The author's tribute to Fleet appears to be a useful corrective.

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THE COMING OF THE BOOK: THE IMPACT OF PRINTING, 1450–1800. ***By Lucien Febvre and Jean Henri Martin. Translated by David Gerard. Atlantic Highlands, N.J., Humanities Press, 1976. Pp. 378. $27.00.***

Reviewed by Robert M. Kingdon
Director, Institute for Research in the Humanities
University of Wisconsin, Madison

Lucien Febvre was surely one of the most seminal minds attracted to the study of history in the current century. His call for a "total history" that would reconstruct the economic, social, and psychological past in supplement to traditional reconstructions of the political, institutional, and legal past has had an enormous influence on generations of historians. One of his specific goals late in life was to write a history of the book that would show how it "created new habits of thought not only within the small circle of the learned, but far beyond" and that made of the book "one of the most effective means of mastery over the whole world" (10–11). Since he knew he could not live to complete this project, he turned it over to a brilliant younger historian, Jean Henri Martin. This study, therefore, is primarily Martin's work, although inspired, introduced, and partially checked in draft by Febvre, and supplemented at a number of points by sections contributed by other French experts on the history of printing.

While this book does not really fulfill Febvre's grandiose ambition, it nevertheless does supply an excellent synthesis of work on the subject,

all the more useful because it remains relatively modest and sensible. A prefatory section describes the growth of the manuscript-copying industry before the invention of printing. Martin begins the main text with chapters on the prerequisite development of the paper industry and of the technology that made printing possible. He follows this with chapters on the visual appearance of the book, financing of early books, the labor force of the new industry, its geography, the book trade, and ways in which books changed society. The result is a masterful synthesis, supported at certain key points by Martin's own research into the Parisian book trade, fully abreast of the best monographic work at the time of writing. It is clearly the best single introduction to this fascinating subject, and should be of great value to the many bibliographers, historians, and students of literature interested in the early printing industry. Its unusual attention to the economics of this industry makes it particularly valuable to those interested in business history.

The translation into English of this important work is generally clear, precise, and accurate in technical vocabulary. No attempt has been made, however, to bring it abreast of work since the book's original publication in 1958. Not even Martin's own monumental two-volume study of the publishing trade in seventeenth-century Paris (Geneva, Droz, 1969) has been used. Many parts of this book, in consequence, are less complete and precise than they could be. The chapters on financing and on the book trade, for example, could have been improved with material drawn from the second volume of Leon Voet's *The Golden Compasses* (Amsterdam, Vangendt, 1972) on the business history of the Plantin press. The translation also omits the bibliography and most of the illustrations of the original. And it oddly incorporates typographical errors in proper names one finds in the original. Students who cannot read French will be grateful for this excellent introduction. But specialists will have to go beyond it.

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WOMEN'S WORK IN SOVIET RUSSIA: CONTINUITY IN THE MIDST OF CHANGE. ***By Michael Paul Sacks. New York, Praeger Publishers, 1976. Pp. xvi + 221. $16.50.***

Reviewed by William J. Kelly
Visiting Associate Professor of Economics
University of Colorado, Colorado Springs

In this monograph — a revised doctoral dissertation in sociology — Michael Paul Sacks explores the prominent and changing role of women in the Soviet labor market. He devotes attention primarily to the RSFSR, the largest and most Russian of the 15 republics of the Soviet Union, but occasionally draws on national experiences.

In Chapter 1, the author presents specific theoretical issues from the sociological literature that he hopes to examine. Most prominent among these is the question of whether increased female employment outside the home reflects changing social values with respect to the responsibilities and rights of women (as argued by Goode) or whether such employment is just the product of old values operating within a different external environment (as suggested by Scott and Tilly). Also of interest

is whether employment outside the home has given women increased status within the family.

Sacks shows that before the 1917 revolution, peasant women were traditionally subservient to men and were kept hard at work with domestic chores, agriculture, and cottage manufacturing (e.g., home weaving). With the decline of cottage industry in the late nineteenth century, poor women found increasing employment outside the home, until by 1897 they comprised a third of the wage earning population. But although women were employed in many industries, they were segregated into occupations related to their traditional domestic chores (e.g., work with textiles).

Female participation rates continued to grow after 1917, motivated largely by the financial needs of the family. Those who sought work had little difficulty in finding it after the five year plans were launched. Female employment was further facilitated by the violence of revolution and war, which left only 74.3 males per 100 females (1946). As a result of these developments, women comprised 55 per cent of the workers and employees in 1945.

Rising educational levels enabled women to break into many new fields, so that by 1970 they accounted for 60.7 per cent of the professional and semiprofessional labor force of the RSFSR.

In Chapter 5, Sacks examines the relative status of working men and women, as revealed by the many time-budget studies that have been conducted since the 1920s. Although there are technical shortcomings in these surveys, they yield a consistent picture: working women in RSFSR carry a double burden because of their considerable domestic responsibilities. As a result, they generally have less free time than do working men and less time for upgrading their job skills. Improving living standards and greater availability of household appliances have been slow to change things: in 1970 only 21 per cent of Soviet families had washing machines and only 11 per cent had refrigerators. In rural areas conditions are even more backward.

Sacks concludes that the women of the RSFSR have made tremendous educational and occupational strides, but that these gains have resulted in only limited movement toward equality of the sexes: occupational segregation persists with women overrepresented in low wage employment and underrepresented in leadership positions. Sacks also concludes that employment of women in the RSFSR has not been associated with great changes in values but rather has been a response to changing external conditions within a framework of preindustrial values, as hypothesized by Scott and Tilly. However, he speculates that the emergence of a Soviet middle class may now be leading to new values, which could put greater emphasis on the domestic roles of women and on "idealized femininity."

The book has several shortcomings. It is not as well focused or well written as it might be. The concluding chapter is particularly disappointing and leaves the reader wondering how it all hangs together. Economists will be upset by the muddled discussions of supply and demand and all readers will be annoyed by the abundant typographical errors.

However, these defects are outweighed by positive features of the book, including an assembly of thought-provoking ideas and a wealth of

historical information. This study will join the growing literature on women in the Soviet Union, not so much as an update to earlier works (such as Norton Dodge's decade-old study), but as a valuable supplement on questions which have been raised but not adequately answered in the past.

Of greatest importance is the information on Soviet time-budget studies. In order to fully understand fertility, labor force participation, and other important female activities we must know more about what goes on in the home. Sacks has rendered a valuable service in making this aspect of Soviet research more accessible to Western readers. Perhaps there will be a future English–language volume that will report in detail on the many Soviet studies of time usage.

All things considered, this volume is a valuable contribution and will be of interest to many students of economic and social history, labor, economic development, comparative economic systems, Soviet studies, and sociology.

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NEW YORK CITY MUTUAL SAVINGS BANKS, 1819–1861. ***By Alan L. Olmstead. Chapel Hill, The University of North Carolina Press, 1976. Pp. xiv + 236. $15.95.***

Reviewed by H. Peers Brewer
Vice President
Manufacturers Hanover Trust Company

It is rare enough that an historian invades the venerable precincts of the savings bank industry. Alan Olmstead has done so with credit to his craft and with illumination to the industry. The tap root of this study is an extensive and seminal research into the industry's primary documents; general ledgers, mortgage, loan and deposit ledgers, minute books of trustee meetings and other files. This research yielded rich insights and afforded the author a fresh base for examining savings bank behavior.

Throughout the book, Mr. Olmstead pursues a central question: were the mutual savings banks run primarily for philanthropic considerations or for the personal profit of the trustees? The question is appropriate since the prevailing assumption in political and business circles has been that mutual savings banks were, or at least should be, administered for the benefit of the industrious poor. The very question, dealing as it does with the motives of bank trustees, does not admit of a definitive analysis. It is to the author's credit, therefore, that he seldom claims more for his conclusions than the historical subjunctive decently allows. The central finding is that the practices of mutual savings banks were, on balance, in conformity with philanthropic objectives, although this was more consistently true of the older mutuals than of the newer ones.

A particularly instructive chapter dealing with deposits explores (among other things) the occupational background of depositors, the average size of accounts, the distribution of accounts by size, and the seasonal rhythm of deposit flows. Individual depositors were found to be interest-rate-sensitive to a surprisingly high degree.

One of the problems faced by the mutuals of this period was whether

large sized deposits should be encouraged, mindful of the presumed orientation toward the "working class." The evidence indicates that while many banks said they were not interested in large accounts, there were, occasionally, significant differences between practice and public posture; and indeed a large proportion of the industry's money was from middle and upper class depositors.

On the asset side of the ledger, the range of permissible investments was quite limited initially, mostly to obligations of the public sector, and only gradually and somewhat begrudgingly liberalized by the authorities over the years to include private sector debt. The Erie Canal, the Ohio canal system, and the Croton water works, all immensely important public projects, were heavily dependent on savings bank money. The older mutuals tended to pursue convergent investment policies in sympathy with philanthropic goals, while the more recently chartered banks often followed policies supporting the profiteering hypothesis.

While all of these observations materially advance our understanding of the savings banks, several loose ends remain. For one, since the inquiry pivots around the motives of the trustees, a more extensive analysis of the occupational background and interlocking directorships of these trustees would be quite useful. For another, while the text clearly illustrates that commercial banks occasionally exploited the redeposit business of savings banks, the influence of at least two other groups — lawyers and politicians — also should have been examined in this regard. In the 1870s, State banking officials specifically condemned the involvement in savings banks of some pernicious lawyers and politicians. It is possible that this involvement began before 1861, the terminal date of this study.

Finally, the author's periodization is open to question. The trends that the study brings to light did not end in 1861, but intensified after the Civil War, nurturing a growing regulatory and legislative concern, which peaked with the general savings bank law of 1875. That year, accordingly, would be a more propitious terminal date, offering an opportunity to see these trends unfold and to see the impact they would have through one agency or another on the industry's structure. The initial life cycle of a financial intermediary normally progresses through three stages: the primitive stage, characterized by a few companies and a relatively simple product structure; the exponential state, wherein the number of companies increases rapidly and the structural sources of income multiply; and the definitive state whereby regulatory and/or market forces react to constrain the industry's activities. This study of the savings bank terminates (awkwardly, I believe) in the middle of the exponential stage.

The present historiographical level of work on financial intermediaries is such that virtually any thoughtful and well researched book prompts a host of new questions. We are fortunate that Mr. Olmstead has brought questions and answers. We entertain the hopeful and happy anticipation that more is to be heard from him on this subject.

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ACRES FOR CENTS: DELINQUENT TAX AUCTIONS IN FRONTIER IOWA. ***By Robert P. Swierenga. Westport, Conn., Greenwood Press, 1976. Pp. xix + 263. $14.95.***

Reviewed by Sidney Ratner
Professor of History
Rutgers University

The ownership of landed property in the United States has always involved real estate taxes, except for certain favored institutions such as churches and colleges. With the right to tax has gone the right to confiscate property when the taxes due have not been paid. The annual auction or sale of land for delinquent property taxes was a commonplace in nineteenth-century America, but has been ignored or not understood by the great majority of historians and economists. The conventional wisdom views tax liens as an instrument of war against speculators. According to the accepted view as presented by Howard Jay Graham in his book, *Everyman's Constitution*, absentee landlords often balked at paying taxes because they felt that the assessment and collection of property taxes were discriminatory. Local officials then resorted to the tax auction and raffled liens against the land to the so-called fractional speculators, thereby destroying or "shingling" their titles. The taxpayers, men with cash and a frontier liking for risk, acquired a claim to land titles, but at the cost of decades of legal and legislative confusion and conflict. To Graham, the tax auction was a lottery to finance local governments, and the tax buyer bought in the hope of obtaining "acres for cents."

Professor Robert P. Swierenga questions the validity of this widely-accepted view on the ground that it has never been tested empirically. He argues that in order to understand the nature of frontier tax auctions and their impact on property ownership, we must know the annual amount of land on which a lien was placed, the types of owners whose land was delinquent and why, who the tax buyers were, and what proportion of liens was eventually redeemed or cancelled. To answer these questions, he examines in depth the evidence on tax buying in nineteenth-century America by focusing on a single midwestern state, Iowa. The author realized that the economic parameters of foreclosure, the determinants of delinquency, and the impact of tax liens on ownership patterns could be discovered only by examining voluminous tax sale records in some sixteen out of ninety-nine counties in Iowa and applying to the data various multivariate statistical tests. He also searched for, and obtained from various manuscript sources, biographical portraits of the most important tax buyers, most of whom were prominent Iowa residents, but some of whom were leading eastern capitalists.

As a result of his elaborate investigations, Swierenga came to a heterodox set of conclusions. According to the new paradigm he presents, tax auctions in the nineteenth century evolved to meet community needs: regular government revenue and private development capital. The tax auction mechanism insured the prompt collection of budgeted government income. It also capitalized tax levies at market money rates by going around restrictive usury laws and attracting local and outside loan funds. In theory, tax certificate financiers bought a low-priced option for

future delivery of land. Actually, they were buying a state license to bypass usury laws. Meanwhile, tax-delinquent landowners deliberately refrained from paying their tax bills in order to obtain much-needed working capital at favorable rates. More than four out of every five of these liens were redeemed within several years. To the question whether frontier tax sales involved "acres for cents," the answer is: as security for tax certificates, yes; but as the price of land titles, seldom.

My final judgment is that *Acres for Cents* is a valuable contribution to business, legal, and tax history. The book is based on exhaustive research in manuscript and published primary sources, a critical exploitation and critique of the relevant secondary authorities, and extensive statistical analysis carefully presented both in the text and in eight graphs, fifty-four tables, and eleven appendices. In chapters one and seven, the author presents a lucid introduction to the complexity of delinquent tax liens and their place in the tax collection process and credit market structure. The other chapters present the legal, administrative, and legal background of the Iowa revenue system, a detailed analysis of the tax sale record books in Iowa, a collective biographical portrait of the leading tax buyers, a detailed account of the financial success of an outstanding eastern capitalist's investments in Iowa tax titles, and an analysis of the profitability of some 8,000 tax lien investments in a selected county. Professor Swierenga is to be congratulated on making a fine application of quantitative methods to a difficult problem in American economic history. One minor criticism: he might have utilized the material on Iowa and eastern millionaires from the book I edited, *New Light on the History of Great American Fortunes* (New York: Augustus M. Kelley, 1953).

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THE PHILADELPHIA QUAKERS IN THE INDUSTRIAL AGE, 1865–1920. ***By Philip S. Benjamin. Philadelphia, Temple University Press, 1976. Pp. ix+301. $12.50.***

Reviewed by A. Michal McMahon
Director of Historical Programs
The Franklin Institute

The nature of industrialization and its impact on the conditions of life and culture is commonly recognized as an important area of concern for historians of modern America. The maturing of the industrial revolution in the late nineteenth century did more than create a nation capable of winning two world wars in our time: that revolution effectively ended much that was familiar to Americans through most of the last century. Philip S. Benjamin's study of Philadelphia Quakers between 1865 and 1920 is centrally concerned with the impact of industrialization on Quaker distinctiveness and on their tenacious adherence to the ideals of Quietism and Simplicity in the face of a demanding cultural nationalism.

Benjamin's point is that, during the half-century following the Civil War, "the forces of technological change eroded [Quaker] distinctiveness" as "rail transportation, industrialization, urbanization, and business combination all worked to nationalize the social order" (vii). Further-

more, the religious diversity of Protestant America gave way to an ethnic pluralism, a change accompanied by the development of "a homogeneous national culture" and "the secularization of religious norms" (viii).

To explain and demonstrate these general cultural changes brought on by industrialization, Benjamin offers the postbellum experience of Philadelphia's Quaker community. In 1870, Quakers were a multifaceted social group, diverse economically and religiously. And because they also had become immersed in their own rules, the social transformations of the era were a trying experience for them. They struggled as Quietists to remain aloof from worldly ways and to maintain the distinctiveness born of Simplicity.

The breadth of these commitments created struggles throughout the expanding industrial order. In education and in the marketplace, in dealing with the municipal corruption and social and economic dislocations of the late nineteenth century, and in their philanthropic activities Quakers sought both to approach the dominant culture and to defend distinctive concerns. They attempted the difficult task of responding to the needs of depressed and oppressed minorities — Indians, Southern blacks, and women — and avoiding entanglement with worldly institutions. A more positive posture came between 1900 and 1920 when the Society of Friends was transformed "from an exclusive, conservative community . . . into a progressive body of civil-libertarian pacifists who supported active domestic and international programs of social melioration" (212).

What is to be made of such a transformation? From inward-looking sectarians, the Quakers metamorphosed into twentieth-century, one-world liberals. It was a way of responding to industrial change, and also of refusing to accept fully the ways of the world. Instead of joining Woodrow Wilson's crusade, Philadelphia Quakers created the American Friends' Service Committee to act antithetically to war, seeking instead to relieve suffering.

Benjamin's characterization of Philadelphia's Quakers as they attempted to come to terms with industrialization is often vividly described. Yet in attempting to fully document Quaker perceptions and behavior, he omits adequate discussion of the industrial age itself. Following a brief introduction in which he mentions the social and industrial factors that eroded Quaker distinctiveness, the book amply fleshes out the character of the protagonist, "Philadelphia Quakers." The nature of the story's antagonist, "the Industrial Age," however, is only suggested. Thus without a clear characterization of the situation within which Quakers struggled, the story of the Quakers themselves becomes less clear.

Nonetheless, taken with the growing body of literature on the process of industrialization and its impact on American culture and society, Benjamin's study is a solid contribution. Indeed, the destructive effects of industrial growth on the traditional Quaker community in Philadelphia at the turn of the century is an important facet of the general changes visited upon America during the last century.

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THE FATHERS OF THE TOWNS: LEADERSHIP AND COMMUNITY STRUCTURE IN EIGHTEENTH-CENTURY NEW ENGLAND. ***By Edward M. Cook, Jr., Baltimore, Johns Hopkins University Press, 1976. Pp. xviii + 273. $12.95.***

Reviewed by Alden T. Vaughan
Professor of History
Columbia University

Historians in recent years have written exhaustively about the towns of colonial New England. Unlike their counterparts in the nineteenth century, however, modern scholars are not intent on glorifying a community's past or praising its leaders; rather, they seek to apply a variety of sophisticated social science concepts and methods to basic questions about early America: How and why were communities founded? What social and ideological assumptions guided their development? What demographic patterns emerged and how did they change? And — in studies of eighteenth-century towns — how did community change influence the American Revolution and vice versa? The best of the modern studies — Kenneth Lockridge on Dedham, Mass., Philip Greven on Andover, Mass., and Robert Gross on Concord, Mass., to cite three outstanding examples — have added greatly to our knowledge of American social history and, to a lesser extent, of the economy of early New England.

None of the books in this genre is exclusively concerned with economic matters, but few ignore them altogether. Sumner Powell's account of early Sudbury, Mass., gives major attention to competing traditions of agricultural organization and their impact on the town's evolution; Paul Boyer and Stephen Nissenbaum's analysis of Salem in the witchcraft era makes intriguing suggestions about the community's economic maturation as well as the tensions it caused in the Puritan mind; and Charles Grant's investigation of Kent, Conn., considers the role of land speculation. Similarly, while Edward Cook's *The Fathers of the Towns* is primarily a study of political leadership, it discusses the economic structure of the communities and the economic status of local officials.

What distinguishes Cook's approach from the other town studies is his broad sample (74 towns) and his extensive quantification. The large sample assures results that are more reliable and more subtle than Michael Zuckerman's in *Peaceable Kingdoms*, the only other recent multi-town study of eighteenth-century New England. And the quantification — simple enough for most readers but too elementary, I suspect, to satisfy cliometricians — guarantees a fair degree of precision and meaningful comparison. Thus Cook's major finding is not so much a surprise (historians have long made the same assumption from less concrete evidence) as it is, thanks to Cook, a proven proposition: "When choosing leaders from among themselves, the voters [in the sample towns] preferred to elect men of mature years, substantial experience in public office, and visible success in business" (111). Cook's detailed discussion of the paths to leadership demonstrates not only the truth of the generalization but also the exceptions and variations on the standard pattern.

In a chapter on "The Economics of Leadership," Cook attempts to measure the influence of individual wealth on access to leadership posi-

tions. The task is complicated, Cook admits at the outset, by sparse and imprecise evidence on the wealth of townsmen, both those who held office and those who did not. Tax lists, the principal source, are few and idiosyncratic, and the distribution of wealth varied markedly from town to town and over the course of the century. Nevertheless, Cook found enough data to conclude that "town leaders did not constitute a narrow economic class at the top of society. Most leaders stood somewhere in the top quarter of their town's tax list, but even such relative wealth was not an essential criterion for election" (81). That the poor seldom served in elective office was equally evident, for the absence of salaries eliminated from consideration those who could not serve gratuitously. The importance of modest wealth was thus insured by the eighteenth-century definition of public office — a definition inherited from the seventeenth century but largely discarded by post-Revolutionary America.

The most important contribution of *The Fathers of the Towns* is the typology it imposes on the hundreds of New England communities. Cook earlier presented this scheme in the *Political Science Quarterly* (December, 1971) and repeats it here in more detail and with minor modifications. Borrowing central place theory from the economic geographers, Cook posits a number of regional groupings composed of five types of communities: urban centers, major county towns, secondary centers, small farming villages, and frontier towns. Each had a characteristic social structure, economy, and pattern of leadership. Cook's classification is not rigid, and he readily acknowledges the exceptions. Historians are indebted to Edward Cook for an attractive alternative to generalizations drawn from a single town or from samples too narrowly chosen.

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PRISONERS OF PROGRESS: AMERICAN INDUSTRIAL CITIES, 1850-1920. ***By Maury Klein and Harvey A. Kantor, New York, Macmillan Publishing Co., 1976. Pp. xvii + 459. $13.95.***

Reviewed by Tom Ticknor
Instructor in History
Lake Forest College

This book is an interpretive history for the student and the general reader of the links between American industrialization and urbanization between 1850 and 1920. Chapters summarizing industrial development, the organizational revolution, and the industrial causes of urban growth provide a springboard for a broad survey of the accelerated pace of social change, mounting urban problems, and various attempts at social control that arose within the large industrial city. As an overall thesis, Maury Klein and Harvey A. Kantor blame unbridled market forces stemming from our individually oriented capitalist preference for private over public goods for growing urban ills ranging from intractable poverty, woefully inadequate housing, ghettoization, declining standards of public health, and uninteresting architecture to rising class tensions and the disintegration of urban community. Further, they argue that since wide-ranging urban planning and social reform require far greater market controls than Americans are willing to sanction, our cities are prisoners of industrial progress.

The authors make good use of monographs in urban and social history, investigations from the Progressive era, and literary sources to portray the industrial city. Weak points inevitably occur in a book of this scope, however. The organization of such a complicated topic is no easy task. The descriptions of community in the pre-industrial era seem overly romantic. Efforts to produce a lively survey sometimes bias the account in favor of the worst and most dramatic conditions. Because the authors wish to interpret the national effects of industrialization and urbanization rather than to differentiate among cities by size, pace of growth, or economic base, they often imply that conditions are the same in every large American city. Finally, the book emphasizes the social ferment of urban industrial growth without thoroughly discussing whether rising standards of living partially ameliorated certain urban problems.

Having stated these caveats, however, I recommend the book to business and economic historians as well as to general readers. The lucid treatments of community breakdown and the diseconomies of accelerated, unplanned urban growth during this era raise provocative criticisms of any simple definition of progress measured by per capita gross national product. The authors' range in describing the differential class effects of industrialization and urbanization upon family life, housing, residential patterns, education, religion, and leisure is admirable. Business historians will also find particular interest in the political chapters. Although the book practically ignores the role of entrepreneurship in economic development and the growth of individual cities, its description of urban bosses as efficient businessmen and important economic brokers facilitating urban development is worth consideration, as is the notion that rough and ready capitalism corrupted urban politics and bankrolled the political machine. The summary of the differences between the efficiency-conscious urban structural reformers who sought to bring professional management to local government and social reformers more interested in the problems of the poor is well drawn. And although the sections on philanthropy are brief, the overall evaluation of philanthropy is important, for Klein and Kantor contend that no private munificence could make up for suburban fractionalization of the industrial city, the decline of elite leadership in local affairs based on civic-minded noblesse oblige, or, most importantly, overcome the rising urban decay induced by rapid, uncontrolled urban growth during this period.

Any attempt to school the American public in the fundamental social changes that accompany industrialization and in the economic origins of our urban problems is on target and much needed. Moreover, there is no better subject to examine in order to assess the strengths and limitations of the market system for determining the quality of American life than the social conditions within our major cities. On the whole, this book succeeds as a general survey of these vital issues.

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REMAKING AMERICAN VALUES: CHALLENGE TO A BUSINESS SOCIETY. ***By Neil W. Chamberlain. New York, Basic Books, Inc., 1977. Pp. ix + 193. $9.50.***

Reviewed by Derek F. Abell
Associate Professor of Business Administration
Harvard University

It is because this book dwells more on the historical evolution of social values than on their "remaking" that it will be of interest to the readers of this particular journal. Despite the book's title, only three out of fourteen chapters directly confront the issue of a response to the breakdown of values; the remainder provide the reader with a well written and well conceptualized view of how American values of today have been determined, and how they are being challenged.

It appears to me that the author feels on firmer ground when dealing with the descriptive material of the past. In the role of futurologist, he confounds pure prognosis with his own normative view of appropriate solutions. Allowing even for the much greater difficulty of looking ahead than looking back, there is a tendency to oversimplify the arguments for and against the various scenarios that are proposed. Consequently, the reader is left wondering whether the alternatives that are discussed are as categorical as they appear, or even whether all the most important ones have been considered.

This book is well organized into four major sections dealing with: a way to conceptualize values, the evolution of contemporary American values, challenges to contemporary values, and future responses to these challenges. The first section develops a concept of values in three dimensions: "focal" values, "constitutional" values, and "distributive" values. The conceptual framework is then elaborated in terms of hypotheses about the process by which values are formed and changed. This sound conceptual framework is then applied, in section two, to the particular case of the United States. Students of business history will find this section particularly interesting. There is a short but thorough review of major turning points in U.S. industrial evolution and an attempt to relate these turning points to the development of contemporary social values. These, in the author's opinion, are materialism (the focal value), individual autonomy (the constitutional value), and egalitarianism based on competitive achievement (the distributive value).

Section three of the book deals with the challenges to these values: the challenge of resource scarcity and producer boredom to the materialistic value; the challenge of government interference to individual autonomy; and the challenge of income redistribution with the attendant problem of unemployment and inflation to egalitarianism based solely on competitive achievement. So, in Professor Neil W. Chamberlain's view, the question is what new values will gel as a result of these far-reaching political, social, and economic changes, and whose values they will be.

His answer is that a new breed of corporate "social entrepreneurs" will (should?) lead the way. Such changes will involve, among other things, a clear redefinition of social objectives, centrally controlled capital markets, minimum and maximum wage levels, profit controls in the sense of upper limits on return on investment, and a growing sense of social ac-

countability by management. Cooperation between firms would be encouraged rather than prohibited by law, with the result that inter-firm competition might eventually give way to social collaboration. Professor Chamberlain holds this to be a more likely (desirable?) outcome than the others that he considers, namely: incrementalism, decentralization, a totally planned "systems" approach to economic management, socialism, or military dictatorship.

I am concerned, however, that the complex nature of consumer behavior, executive behavior, and the individual firm's behavior, have not been considered in enough depth in formulating this scenario of the future. The prescribed actions are largely structural; much research on the economic and behavioral processes involved needs to be assembled before we can ascertain whether the expected impact on behavior will necessarily follow. Presumably, if we believe Professor Chamberlain, we shall find out anyway. These changes, in his view, will not be imposed. They will be sponsored by a group of "thrusters" within business itself, with counterparts in unions and government, who will appear spontaneously to affect change.

Whatever the eventual truth of the matter, this book does raise issues, critical issues, in the evolution of our industrial society and its value system. Professor Chamberlain brings some order to a subject that has historically been a chaos of opinion, soft data, and inadequately described variables.

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THE WEALTH OF THE AMERICAN PEOPLE. ***By Oscar and Mary F. Handlin. New York, McGraw-Hill, 1975. Pp. vii + 266. $10.00.***

Reviewed by Richard Saunders
Assistant Professor of History
Clemson University

The Handlins promise us an objective account of "the past forms of human behavior involved in gaining and expanding wealth in the United States" (3). "Our task," they say, "is to describe how bread and things became available" (4).

What they deliver is a general account of the history of the American economy from colonial times to the recession of 1974, which can best be described as bland. It is very familiar territory, from "The Burdensome Colonies" to "The Moving Frontier" to "The Plantation and its Consequences." Under each of these headings is an orthodox recitation, devoid of conflict or passion or the results of recent scholarship. The Handlins see a vast consensus of the American people moving forward in a straight line of progress, with strong, honest government always ready to help. "In a republic," we are told, "it was appropriate to let the people decide," (73) and the state "stood by the side to enforce the rules so the race would be run fairly" (75).

The book eschews firm standards, but we assume, for example, that the destruction of the Second Bank of the United States was regarded as bad because Biddle, who was "far from ignorant," believed in economic growth of an "orderly, predictable character, nicely regulated to prevent excessive booms and panics" (69). The New Nationalism was good

because "a strong, directing government would neither smash nor yield to the trusts, but would safely encourage their development by harnessing them to socially useful purposes" (179). Young ante-bellum southerners (the well-off white males, that is, as the Handlins do not point out these distinctions) dreamed the dreams of success like everyone else, just that theirs were of pastoral plantations as they "strove toward a different, gentler social order" (104). Later, we are told, the Harvard Graduate School of Business Administration "would bestow on business the increased efficiency to solve all the problems of the iron age" (157).

The old controversies are mentioned — over agrarianism vs. industrialism, over slavery, over the tariff, over the gold standard, over deficit spending — but they never seem to deflect from progress and there never seem to be any losers. We meet the poor farmers, the malnourished tenants, the unskilled, the unemployed, the bankrupted, the Wobblies, the socialists, but their problems or ideas seem to be only momentary diversions of little consequence. Even in the fight to unionize, we learn that "enlightened self interest persuaded some employers that the gains in efficiency from satisfied workers, scientifically managed, more than compensated for the additional costs" (220).

The point is, say the Handlins, that after reaching superabundance, Americans are troubled about their economy, apparently, it would seem, more than they were in 1933. Now that they have everything, they feel guilty, and that leads them either to hedonism or nutty causes like "the endangered species, the animals deprived of rights in the zoos, and the pets cheated by tins stuffed with cereal instead of beef chunks" (249). But since Brezhnev and Mao come the United States with their shopping lists, and since the unspoiled and unpolluted countries of central Africa come seeking our kind of polluting industry, things must be all right. "Could there be some merit," they ask in the final clincher, "in an economy which, year by year, and even in the recession of 1974, provides livelihoods for even more people, which steadily raises their standard of living, which rebuilt Europe and for three decades steadily poured aid overseas?" (250).

This book will be useful to those who are promoting some kind of project that is likely to have an adverse environmental impact. It will also find a good reception by the U.S. Information Service, particularly for its libraries in third-world countries. Consensus history makes good propaganda. But there is nothing new in this book, either of ideas or evidence, to interest the professional historian.

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SUPREME LIFE: THE HISTORY OF A NEGRO INSURANCE COMPANY. *By Robert C. Puth. New York, Arno Press, 1976. Pp. vi + 293. $20.00.*

Reviewed by Steven M. Gelber
Associate Professor of History
University of Santa Clara

Supreme Life is Robert C. Puth's doctoral dissertation in economics from Northwestern University — not his dissertation rewritten, or revised, or put in book form, or even retyped. It is just his dissertation, fuzzily photographed and put between hard covers at the inflated price of twenty dollars (almost twice the price of the soft cover version printed on demand by University Microfilms).

What the reader gets for his twenty dollars is a dry-as-dust, decade by decade recapitulation of the Directors and Executive Committee minutes of an important Negro life insurance company. The minutes of these two groups, plus data from *Best's Life Insurance Reports* constitute the major sources for Puth's work. There is no indication that Puth used any personal papers, inter-office memos, letters, or interviews in preparing his history. As a result the book is devoid of insight into the human side of the business. The reader learns what the management of Supreme Life and its predecessors did, but never why.

Frank L. Gillespie, the founder of Liberty Life Insurance Co. (the firm's original name) was apparently a remarkable man. Not only was he a successful Northern black entrepreneur, but he also had a strong commitment to helping other Negroes through his business. Puth, for example, makes a point of Gillespie's policy of investing company funds in Negro home mortgages, but nowhere is there a full discussion of why Gillespie did this or how it fit into his general philosophical outlook — if he had one. Gillespie and all those who followed him in the company are ciphers. Even the most obviously interesting people are ignored. On page 38 Puth mentions that Oscar Depriest [sic] briefly served as Treasurer of the firm. On page 60 he notes that "Chicago elected a Negro to the U.S. Congress," and finally on page 282 in Appendix B he includes DePriest in a list of stockholders and members of the Advisory Board with the label "First Negro Alderman." Not only does Puth fail to discuss the implications of having this important local and national political figure connected with the company, he does not even seem to have realized that all three references are to the same man.

Although he does include a very interesting discussion of high pressure "mass production" sales of industrial insurance during the Depression, Puth manages to treat most of the administrative, marketing, and investment history of the company in a lackluster manner. This weakness is in no small part due to his pedestrian writing style which occasionally descends into the totally unreadable, such as the following sentence from page 2: "And it is just these extremes which offer the most interesting material for analysis, insofar as the record compiled by firms which do not fit the industry mold, whether in methods, markets, or access to or use of resources, offer a type of test of the conclusions of the aggregative model."

Puth's work offers little to the historian trying to understand the role

of black businesses or businessmen in American life. The book does provide a complete, if unexciting review of the financial growth of this particular company, and the final summary chapter may be of some interest to those concerned with the problems encountered by firms catering to an exclusively Negro clientele. On the whole, however, there is very little to recommend this book to anyone but the most highly specialized student of the life insurance industry.

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AN AMERICAN COMPANY: THE TRAGEDY OF UNITED FRUIT. ***By Thomas McCann. New York, Crown Publishers, 1976. Pp. 244. $8.95.***

Reviewed by Mira Wilkins
Professor of Economics
Florida International University

The book opens with the suicide on February 3, 1975 of Eli M. Black, chief executive of United Brands, the successor company to United Fruit. Thomas McCann was the company's director of public relations in 1968, when Black had purchased control of United Fruit. McCann resigned in 1971, rather than work with the new owner.

In the early 1950s, when 18-year-old McCann joined United Fruit, he found it to be a company of men who had learned their methods from the firm's founders; it was "in a rut." In a brief flashback, he reviews the familiar story of the company's founding in 1899 — the roles of Baker, Preston, and Keith — and then its growth in the next thirty years. He tells of Samuel Zemurray, the company's chief executive from the early 1930s to the early 1950s. Zemurray was a Bessarabian Jewish immigrant, who presented a marked contrast to the Bostonians who had run United Fruit from 1899 to the Great Depression. Zemurray emerges as a buccaneer figure, scorned by the proper Bostonians, but generous in his philanthropy. McCann admired that crusty, self-made man. After Zemurray came the parade of chief executives, Thomas Cabot (whose tenure was short), Zemurray (for a temporary rerun), Kenneth Redmond (a longtime United Fruit employee), Thomas Egbert Sunderland (an antitrust lawyer from Standard Oil of Indiana), John M. Fox, who McCann thinks was the best of the lot (from Minute Maid), and finally Black.

Most of this book deals with United Fruit history during McCann's tenure with the firm; it is his view from the public relations department. This is not a pleasant story. It tells of insensitivity: for five years — in the late 1950s — the company in ignorance ran advertisements in Central America that were considered by Latins as "graphic representations of colonialism." McCann claims blatant manipulation of U.S. media, including the *New York Times*. The book maintains that from 1953 to 1960, United Fruit's "Newsletters" on Guatemala, Honduras, Costa Rica, and Panama got wide circulation so that "a great deal of the news of Central America which appeared in the North American press was supplied, edited, and sometimes made by United Fruit's public relations department in New York." He reports that in the early 1950s, United

Fruit was well-connected in Washington ("the government got what it wanted through the use of the company and the company got what it wanted as well"); he lists the people with whom the company associated in Washington and the ones who were "on its payroll," as lawyers, directors, or consultants. He is convinced that in 1954 United Fruit was "involved at every level" in the downfall of Arbenz in Guatemala. He reveals what he knows of Robert Kennedy's request that United Fruit be involved in the Bay of Pigs invasion. On the other hand, of the rest of the 1960s (when McCann was in a better position to know), there is little on United Fruit's relations with Washington. Implicit is the suggestion that Sunderland, Fox, and Black had fewer ties in the nation's capital.

The business historian interested in Central America will find little on the 1960s that is new. Central American politics (except for the Honruras-El Salvadorian war) are virtually omitted. The material on that war is, however, of casual interest. The book gives only passing information on the impact of United Fruit on Caribbean economies.

This is popular swashbuckling history, but the business historian will want to consider some of McCann's insights. We learn why McCann thinks Zemurray's attempts at diversification failed (the "banana men" were committed to the *status quo*), why the company held so much uncultivated land (to keep it from competitors), why the U.S. government in the 1950s took antitrust action against United Fruit ("to cloud the surface appearance of the administration's true and close relationship" with the company — a curious explanation, to say the least), the problems faced by Sunderland in 1959 (new competition and a totally unresponsive company), Sunderland's actions (boxed fruit, the Valerie variety, and brand-name marketing), the move toward and failure in diversification (A & W Root Beer, freeze-dry shrimp, Del Monte, which slipped away), the resistance of tropical division managers to ideas that came from Boston, the attempt by Fox to modernize, then the details of Eli Black's raid (fascinating data on the insider's reactions), and Black's moves. McCann discovered Black was an "incompetent" manager. The decay of the organization under Black is presented with sadness.

This book often smacks of stories that P.R. men tell after the third scotch on the rocks. It is highly subjective. While it should be read by future historians of United Fruit, it in no way substitutes for a balanced, scholarly history, which remains sorely needed.

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INDUSTRIAL ARCHAEOLOGY: A NEW INTRODUCTION. ***By Kenneth Hudson. Atlantic Highlands, N.J., Humanities Press, 1977. Pp. 240. $12.50.***

A POCKET BOOK FOR INDUSTRIAL ARCHAEOLOGISTS. ***By Kenneth Hudson. Atlantic Highlands, N.J., Humanities Press, 1977. Pp. vii + 134. $4.50.***

INDUSTRIAL ARCHEOLOGY: A NEW LOOK AT THE AMERICAN HERITAGE. ***By Theodore Anton Sande. Brattleboro, Vermont. The Stephen Greene Press, 1976. Pp. vii + 152. $18.95.***

Reviewed by Walter J. Heacock
General Director
Eleutherian Mills–Hagley Foundation

However imprecise, the term "industrial revolution" is a useful label for the dramatic changes that occurred in British manufacture and communications between 1760 and 1830. Scholars were aware of these developments even while they were taking place, and the study of industrial history had an early beginning. Within recent years, a quite different approach to the documentation and interpretation of early industries has developed — again in Britain — and its descriptive term, "industrial archaeology," is also controversial.

Following World War II, there was a growing interest in the relics of early British industry and a slowly evolving recognition of their value in understanding the nation's past. Factories and mills, bridges and canals, engines and locomotives began to attract the history buffs and eventually the academicians.

In 1963 Kenneth Hudson published the first book on industrial archaeology with a second edition appearing in 1966. This third edition, *Industrial Archaeology: A New Introduction*, sums up the several stages of development that began with "a small and curiously assorted body of pioneers" devoting a considerable amount of time to locating, measuring, photographing, and analyzing the physical remains of yesterday's industries (their efforts resulting in a National Register of Industrial Monuments, now headquartered at the University of Bath) and was followed by a remarkable proliferation of books, films, adult education courses, and some recognition by library-bound historians.

Another indication of popular interest in industrial archaeology is the great success of the Iron Gorge Museum in Coalbrookdale. Featuring Abraham Darby's celebrated "first cast iron bridge" across the Severn together with his rehabilitated ironworks and a miscellany of industrial relics at Blists Hill, Iron Gorge Museum is one of the world's most extensive industrial museums and one of the most heavily visited museums in England.

The author introduces this volume with a caution, quoting H. J. Habakkuk: "This essay is a foray into the debatable borderland between history, technology and economics. Any who sets up as a middleman is likely to provoke the traditional mistrust of brokers and bodgers."

Hudson considers himself a popularizer rather than an academic, but he is the acknowledged authority in this field, and he has written an

excellent history and guide to what may be considered the fieldwork for industrial history. His chapters addressed to definition, value, approach, records, publications, and documentation provide basic instructions for the practitioners. His specific examples are splendidly illustrated, and his recognition that successful industrial archaeology requires an informed interest in economic and social history should reassure most skeptics.

This is an attractive and useful book, with valuable appendixes, bibliography, and gazetteer. As an extra dividend, it should provide added pleasures to the knowledgeable traveler in Britain who may be surfeited with too many stately homes, castles, and cathedrals.

A Pocket Book for Industrial Archaeologists, also by Kenneth Hudson, has little to offer the general reader. As its title indicates, it is a reference book and a working tool for the neophyte industrial archaeologist. Less than half its pages are devoted to text, while the remainder contain annotated lists of museums, libraries, and archives of special value to those engaged in this particular aspect of industrial history. It is astonishing to learn that there are ninety-three transport museums in the United Kingdom in addition to seventeen general museums of science, technology, and industry. The author suggests that the number exceeds the need, but his brief descriptions do not adequately differentiate those of first quality from those with very little to offer.

The book also includes a compilation of museums illustrating the history of particular industries, including a mustard museum in Norwich, a typewriter museum in Bournemouth, and another museum in Keswick devoted to the history of pencil-making from 1558 to the present day! Finally, there is a list of organizations and institutions actively involved in industrial archaeology and a chronological list of key inventions and technological developments in the major industries.

In a brief introduction, Hudson recognizes that "what still remains of yesterday's industry and transport has been pretty thoroughly located and sifted," and that in the future the industrial archaeologist must turn his attention to the relics of the "Second Industrial Revolution," which is based on electricity and petroleum. He also prophesies a more humanistic interest in the role of the worker.

Literature on industrial archeology has not been as extensive in the United States as in England, but *Industrial Archaeology: A New Look at the American Heritage* by Theodore Anton Sande provides a handsome introduction for the general reader. In appearance, it is similar to the new edition of Kenneth Hudson's *Industrial Archaeology* and to an earlier volume by Brian Bracegirdle entitled *The Archaeology of the Industrial Revolution*. All three would grace a coffee table with their well-designed, well-illustrated, and large format. Moreover all three make important statements about the significance of documenting and understanding the industrial past.

Sande was one of the founders of the Society for Industrial Archaeology and served as its first president. He has not attempted to give us a broad history of the organization or a detailed statement about the present state of this relatively new discipline in the United States. In a very helpful appendix, which could very well have served as an introduction, the author does explain the practice of industrial archaeology

and gives a very brief statement about the Historic American Engineering Record (HAER), which promises to be the most ambitious effort ever undertaken to document industrial history through field study.

This is a sampler, not a textbook. The author has selected forty-six examples of industrial sites from across the country and has briefly described them, supported by maps, drawings, and excellent photographs. His choices range from the beautiful Tunkhannock Viaduct in Pennsylvania to the wreck of a gold dredge in Oregon, from a simple gristmill in West Virginia to the eleven-mile-long railroad trestle across the Great Salt Lake. An appendix provides brief descriptions of 360 additional sites, most of which are from the HAER files.

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THE RUSSIAN ROCKEFELLERS: THE SAGA OF THE NOBEL FAMILY AND THE RUSSIAN OIL INDUSTRY. ***By Robert W. Tolf. Stanford, California, Hoover Institution Press, 1976. Pp. xv + 269. $14.95.***

Reviewed by Muriel E. Hidy
Belmont, Massachusetts

In seventeen short chapters of a tightly written book, Robert W. Tolf reviews the role of the Nobel family in the economic development of Russia. Most of the pertinent business papers were destroyed, and the author footnotes lightly, but his book is based on a wide variety of printed sources and a judicious use of significant private papers. Twenty-two pages of illustrations and two maps give the reader glimpses of men, factories, derricks, means of oil transport, the extent of Nobels' storage and marketing network in Russia, and the geography of productive Baku.

The three Nobel brothers, Robert, Ludwig, and Alfred, were well trained for business. In 1842, with their strong mother, they rejoined their inventive father, Immanuel, who had emigrated from Sweden five years earlier. For two decades he was a successful manufacturer in Petersburg, Russia, specializing in steam engines. The government financed his research in land and underwater mines, utilized in the Crimean War, and rewarded him with honors. Meanwhile, the brothers gained proficiency in languages. The two eldest specialized in engineering, Alfred studied chemistry. All gained experience in their father's factory.

Following Immanuel's bankruptcy in 1859, in part caused by a change in government policy, the brothers went separate ways until united in the oil industry. Alfred invented dynamite in Sweden and earned an international financial reputation. Ludwig started a factory in Petersburg, emphasizing the production of guns. Robert, the eldest brother, after several unsuccessful ventures, almost stumbled into the oil industry. Using funds intended for supplies for the Petersburg factory, he acquired a refinery in Baku. His brothers joined in the investment.

The author gives the business historian a vivid case study of the evolution from a successful refinery into a large integrated oil business. Personal factors, differences of opinion among the brothers, Robert's departure from Baku, and the increased participation of Ludwig, were paralleled by changes in business organization, financial policy, and tech-

niques of operation. The Nobel Brothers Petroleum Production Company was organized in 1879, three years before the Standard Oil Company (New Jersey). Ludwig studied the oil industry of the United States, but he brought to that of Russia his own inventive abilities in the adoption of pipe lines, the development of barges, tank cars, and especially tankers, and the early utilization of continuous distillation.

While the author's discussion of the oil wars and temporary peace treaties among large corporations of several nations is dramatic, it is here that some points might be questioned. To simplify, he uses the name Standard Oil loosely, almost ignoring the strong national leaders of its European affiliates. Since for the Russians, kerosene was almost a byproduct of the large production of fuel oil for Russia's railroads and factories, the implication that Standard Oil was usually the price-cutter in kerosene, currently its major product, seems questionable.

Unlike the Rockefellers, Ludwig supplied a second generation of leadership for the oil industry. His son, Emanuel, a naturalized Russian, showed capacity to select men and to delegate. He rose to lead, modernize, and expand Nobels' properties to control about 50 per cent of the Russian oil industry. Heads of departments, such as Karl Wilhelm Hagelin and Hans Olsen, played major roles. Emanuel's brother, Gustav, was brought forward in the oil industry, while delegation of authority to other brothers in the Petersburg factory was not as complete.

The last chapters will appeal to readers of diverse interests. Nobels' contribution to better labor conditions and social services included the surgical work of Ludwig's daughter. Temporarily, Nobel securities were affected by bachelor Alfred's leaving his large fortune to establish prizes, and later by the ferment in the Baku-Batum oil region in 1902–1906. These disturbances, then war and revolution, changed the ownership of oil properties. In 1911 the Rothschilds, who had worked closely with the Nobels, sold out to Royal Dutch Shell. In 1918 all the Nobels' holdings in Russia were confiscated, and, after eighty years, the family returned west. The sequel includes its members' participation in oil in Poland with Standard Oil, and that old rival's departure from its policy of not investing in politically uncertain Russia by buying a large portion of Nobels' oil shares.

The book merits careful readers. While some may find the author's praise of the men he is analyzing excessive, he has demonstrated that the Nobels were a gifted, energetic, and productive family contributing in many fields. The author's comparison of the oil industry in Russia with that of the United States is interesting, and he gives information on the three Nobel brothers to enable the reader to contrast them with the Rockefeller brothers of the same generation, John D., William, and Frank.

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CHINA'S ECONOMY AND THE MAOIST STRATEGY. *By John G. Gurley. New York, Monthly Review Press, 1976. Pp. ix + 325. $15.00.*

Reviewed by John K. Fairbank
Professor of History
Harvard University

The chief gap in China studies is between the contemporary revolution and the long historical background that lies behind the pre-liberation decades of weak government, militarist exploitation, Japanese invasion, and peasant suffering. Behind these disasters of the early twentieth century, which still sanction the new order of today, there are several things still inadequately understood, such as, the apparent prosperity of the early eighteenth century and the enormous population growth that came with it. Another anomaly just beginning to be studied is the proliferation and complexity of domestic trade and commercial institutions in the eighteenth and nineteenth centuries of which the Canton trade was an offshoot and index. The gap is created by the fact that students of contemporary China seldom if ever have time to study pre-modern China, where the imperial bureaucracy and ruling class expounded Confucianism while the larger merchant class pursued material profit. What were the unresolved tensions and institutional conflicts that led to the modern revolution?

John G. Gurley recounts the Maoist success story as a professed Marxist in rather bland and persuasive terms that leave one feeling that a good deal of assimilation has occurred between Marxist and non-Marxist economists. In this collection of articles his chapters on "Maoist Economic Development" and "The Formation of Mao's Economic Strategy 1927–1949" seem less problem-oriented analyses than simply narratives in general terms acceptable both in China and abroad. In brief compass, of course, it is not easy to recapture the acuteness of policy struggles and creative experiments. The story comes out rather like toothpaste on a brush. The reason is that this is a mainline account with the policy opponents and dissidents pretty much filtered out. The institutions hammered out on the anvil of revolution are presented to us without our hearing the hammer blows or seeing the sparks flying.

A hundred-page chapter, "China's Economy through Books," provides book reviews of some twenty-eight works on the modern economy — a judicious overview of the field that finds rather little to condemn other than the egregious imperialists who think China should remain a supplier of agricultural products.

Mr. Gurley's most interesting contribution is the contrast in the starting points of Russia and China in their modern revolutions. The Russians lacked both theory and practice, and by being first had to break the trail. The Bolsheviks' strength was confined to the cities and almost destroyed by civil war at the very beginning. They lacked trained cadres and even continuity of leadership when Lenin left the scene. The contrast with the Chinese case is plain, and Mr. Gurley makes the most of it. But as the Chinese conditions require different solutions and as Mao begins to deviate from the Soviet model, we are not given any particular understanding of the stresses and strains this imposed on Marxism-

Leninism. The Chinese simply go their own way and what a Marxist or anyone interested in ideology is to think about it is not pursued. Questions of political faith do not seem to be involved, perhaps because Marxist economics are not Marxist politics.

Mr. Gurley adduces one arresting idea: "From the standpoint of the ruling classes, poverty may not be a failure but a prerequisite for their accumulation of wealth, their privileges, and their social, political, and economic domination" (232). He sees peasant misery pre-liberation as due "not only to the inherent difficulty of raising millions of people out of abject poverty during a century of violence but, more important, to the almost complete lack of interest by the Chinese governments and foreign investors in doing any such thing. The peasants remained poor in large part because poverty served a purpose; or at best because it did not prevent the wealthier classes from extracting the economic surplus of the countryside." Is this a new point or merely what one would normally expect of a ruling class? No examples are offered to make the point stick.

The neat picture that Mr. Gurley presents of 170 million families forming 5 million teams in 750,000 brigades under 50,000 communes in 2,000 counties would be more significant against an historical background, like the early Ch'ing organization of families in *li* and *chia* to perform local state services and in *pao* and *chia* for mutual surveillance and responsibility. The Maoist success story comes partly out of China's past where the T'ang, the Sung, the Ming, and the Ch'ing all had their organizational success stories too. But this historical perspective is missing, and we are left with a Maoist triumph that has few ingredients from China's long past and yet basic differences from the Soviet model.

Is the Chinese model diffusible? Mr. Gurley discusses the chances, listing many countries by categories, but confesses after all (310) that "*the* Chinese system of economic development is difficult to identify" because it is an amalgam made by Maoists and anti-Maoists in opposition. In the end, he gives us no grasp of the continuing problems and the forces within the People's Republic that will continue to be locked in struggle as new problems continue to arise.

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SHANGHAI OLD-STYLE BANKS (CH'IEN-CHUANG) 1800–1935. ***By Andrea Lee McElderry. Ann Arbor, University of Michigan, 1976. Pp. viii + 230. $3.00, paperback.***

Reviewed by Wellington K.K. Chan
Assistant Professor of History
Occidental College

Although somewhat unpolished in organization and style, this is nonetheless a lucid account of the *ch'ien-chuang*, the major traditional financial institution in nineteenth- and early-twentieth-century China. Andrea Lee McElderry has depended heavily on the invaluable Chinese collection, *Shang-hai ch'ien-chuang shih-liao* (Shanghai, 1961), to place the *ch'ien-chuang* in the context of rapid political and economic changes durthe entire period of Western domination in China. She does not treat these traditional banks as an economic process; economists and business

historians may be disappointed by the absence of graphs or statistical tables. Instead, she has succeeded in analyzing several issues of interest to institutional and social historians.

After an opening discussion on the different types of financial organizations, clarifying the confusing nomenclature and defining their functions, the author proposes two major premises about the Chinese financial and business world. First, that it remained personalized and traditional, with its structure and practices unchanged; and second, that its basic strength allowed the Chinese merchants to compete effectively with the foreign bankers and traders, who could not penetrate the Chinese market beyond the treaty ports.

Such an analysis is not new. Rhoads Murphey, Tom Rawski, and others have argued similarly. But McElderry lends depth and new insights into these arguments by showing how the *ch'ien-chuang*, like compradors on the individual level, facilitated the co-existence of Western and Chinese trading systems. These traditional banks then financed their own growth, and that of the domestic and export markets, by tapping the larger capital resources of the foreign bankers. The consequent dependence on foreign credit, however, placed the Chinese economy on shaky foundations. Thus, many overextended *ch'ien-chuang* were brought down when foreign bankers recalled or withheld credit, creating several financial crises during the Ch'ing period.

Yet the foreign bankers had no clear-cut domination. By maintaining unity, by threatening to halt all trade, and by influencing governmental support, the *ch'ien-chuang* preserved its strength and profitability. Even the imperial government came to depend on it more and more because of its role in channeling customs receipts to foreign creditors. In short, the foreign bankers, the Chinese government and the *ch'ien-chuang* existed symbiotically.

Decline of the *ch'ien-chuang* set in during the 1920s and 1930s because the new national government favored modern banks and tried to develop a modern financial system. The centralization of silver dollar holdings, the adoption of uniform currency, and the monopoly of note issuance by government banks are examples of government reforms that helped the modern banks at the expense of the traditional. Civil wars, the loss of Manchuria to the Japanese, and the world depression of the 1930s added to the *ch'ien-chuang*'s woes. Cooperative efforts by guild leaders in setting up reserve funds and a research society slowed down but could not prevent its collapse.

Why were the *ch'ien-chuang* leaders so ineffectual in preventing its demise? The author believes that they were politically isolated or uninvolved. Officials who assumed banking posts were usually officials first, while bankers who became officials usually went into modern banking. She argues that even those traditional bankers who contributed money to the 1911 Revolution did so without ideological commitment, but out of self-interest (77, 114, 121). This was indeed the attitude among the Chinese merchant class as a whole. But to extrapolate from these few examples and conclude that these conservative merchant leaders were politically inept seems simplistic. After all, Chiang Kai-shek himself mingled in their midst and struck up many a friendship with these

leaders. The traditional Chinese bankers were not inept or naive politically. They were far less successful in fighting political battles in the 1930s than in the 1900s because Chinese modern banks had replaced the foreign banks as their adversaries, so that the forces of nationalism and patriotism were no longer with them. McElderry is, however, correct in suggesting that the *ch'ien-chuang* bankers, like all Chinese merchants, had little political power. Why this was so is an intriguing question that remains to be tackled.

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WOMAN-WORK: WOMEN AND THE PARTY IN REVOLUTIONARY CHINA. ***By Delia Davin. New York, Oxford University Press, 1976. Pp. xii + 244. $15.00.***

Reviewed by Chu-yuan Cheng
Professor of Economics
Ball State University

The book under review is concerned with the changing roles of women in Chinese society after the Communist Revolution in 1949. The author set out to trace the development of women's liberation in China, to identify its problems, and to assess its achievements. The work is more an anthropological and sociological study than an economic analysis.

The work falls into five lengthy chapters, the first of which is devoted to a description of the Communist policy towards women in the period of the Kiangsi Soviet, the anti-Japanese war and the civil war. These early experiments, as the author sees it, seemed to be a laboratory for social change in later years. Chapter two traces the history of the Women's Federation, which has directed the Chinese women's movements since 1949. The fluctuations of the women's movement in the 1950s is explained as the consequence of changes in economic policies, since radical economic policies always generate rapid social changes and inspire the women's movement, while conservative ones serve as a brake on it. Chapter three analyzes the difficulties of introducing a new style of marriage and family life to the conservative Chinese countryside. Although much has changed in the rural areas, there are still basic institutional barriers that inhibit the implementation of the new marriage law officially instituted in 1950.

The other two chapters are more interesting to economists. They discuss, respectively, the life of women in the countryside and in the towns. The effects of land reform and collectivization on women's economic positions, and the conflict between domestic and outside work and the discriminatory practices in wage and job opportunties between the two sexes are discussed in detail. Despite numerous official claims of improvement in the fate of women, the author contends that women in China are still a long way from economic equality with men.

One major conclusion arising from the study is that if one follows Engels' position that "the emancipation of women will only be possible when women can take part in production on a large, social scale and domestic work no longer claims anything but an insignificant part of her time," then the Chinese women are still far from becoming emancipated. In non-agricultural occupations, women in China represented less than

one-fifth of all workers and employees. In the countryside, they accounted for only one quarter of total work-points allocated by the agricultural cooperatives all over China (149). In contrast, rural women in the Soviet Union contributed 55.5 per cent of the total labor inputs measured in man-hours in 1959.

Moreover, many new innovations introduced by the Communists during the past 26 years such as the street committees and neighborhood factories, which have received wide acclaim in foreign presses, are viewed by the author as short-term expedients but long-term detriments for the independence of women. Street committee work, being voluntary, does not confer economic independence and even women's employment in the neighborhood factories brings in less income, less job security, and fewer fringe benefits than a regular job. "The danger of such developments is that they may become institutionalized. If this happened, a larger proportion of urban women would be excluded from the most productive and rewarding sector of economic activity" (197).

The book is well-documented and provides many insights into the women's movement in China. Much of this is still unknown to the outside world. It suffers, however, from several drawbacks.

First, the study concentrates primarily on the experiences of the 1950s and touches only peripherally on developments in the early 1960s. In view of the dramatic rise to power of Chiang Ching and the large-scale promotion of women cadres in the Party organization in the wake of the Cultural Revolution, the roles of women in the 1970s may differ significantly from those in the 1950s. An up-to-date analysis seems more valuable for the assessment of women's roles in contemporary China.

Secondly, unlike N. T. Dodge's *Women in the Soviet Economy* (The Johns Hopkins Press, 1966), the study lacks systematic analysis of women's roles in Chinese education, and in economic and scientific development.

Finally, the author's decision to use the Hanyu Pinyin system of romanization of names instead of adopting the conventional Wade system, which is still used by Chinese official publications such as *Peking Review* and *China Reconstructs*, creates many unnecessary confusions. Under the Hanyu Pinyin, Mao Tse-tung becomes Mao Zedong and Chu Teh becomes Zhu De. The confusion is sometimes aggravated when the author uses two romanizations for the name of the same place as in the case of Kwangtung which was first romanized as Kuangdong on page 68 and then as Guangdong on page 87. Readers who are unfamiliar with the Hanyu Pinyin may confront some difficulties in identifying provinces, countries, and even prominent leaders.

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EARLY INDIAN ECONOMIC HISTORY. ***By R.N. Saletore. Totowa, N.J., Rowman and Littlefield, 1975. Pp. xv + 859. $27.50.***

Reviewed by Thomas R. Trautmann
Professor of History
The University of Michigan

This, the most recent of R.N. Saletore's several books on ancient Indian history, is an encyclopedic survey of the ancient Indian economy from the middle of the third millenium B.C. to the seventh century A.D. The dust jacket tells us to look for a sequel, which will bring the study to the beginning of the nineteenth century.

The book is organized topically: the geo-economic background (Chapter I) and early external commercial contacts (II); a commodity-by-commodity discussion of ancient Indian imports (III) and exports (IV); a port-to-port description of sea routes (V) and land routes (VI); markets, prices, and state control (VII); land and agricultural problems (VIII); corporations, i.e. guilds and partnerships (IX); and currency, exchange, and banking (X). The ancient Indian economy was, of course, a predominantly agrarian one, and it is somewhat surprising that this aspect of it is given only a single chapter, toward the end. That apart, the nearly 700 pages of text certainly can be said to cover the ground.

Both for its topical organization and for its sheer bulk this book is most likely to be used as a work of reference, an index to the facts rather than a comprehensive interpretation of early Indian economic history, and this seems to have been its author's purpose. The specialist in Indian history will use it, I trust, critically; but the non-specialist needs be warned that there are serious defects in it.

Of Saletore's chronological framework the most charitable thing that may be said is that the author adheres to the more ancient dates for Indian sources that some scholars of an earlier generation preferred. Thus he puts the oldest extant Indian document, the hymn-collection called the *Ṛg Veda*, at 2500 B.C., whereas the contemporary consensus brackets it between 1500 and 1200 B.C. Being a thousand years out of step is bad enough, but he provisionally dates the great epic, the *Mahābhārata*, even earlier, namely 3200 B.C., whereas the war that it celebrates cannot have occured much earlier than 1000 B.C., and the epic text itself reached the form in which we now have it only by 400 A.D. As to the *Arthaśāstra*, an important treatise on statecraft upon which this book relies heavily, Saletore accepts its traditional ascription to the minister of the first Mauryan emperor (c. 321 B.C.), but ignores strong evidence that the text as we have it was compiled in c. 150 A.D. The chronology of Indian texts is maddeningly difficult to determine and tedious to discuss, but it is fundamental to historical analysis. An outlandish chronology such as Saletore's plays hob with the historian's objective, putting effect before cause and throwing the Indian data "out of sync" with the more securely dated Greco-Roman and Chinese evidence on India's foreign trade.

Other problems arise from the heavy reliance on the *Arthaśāstra*. It is inevitable that this remarkable text should be the centerpiece of a disquisition on ancient Indian economy, for it has much to say on matters we call economic, and it is nearly alone in doing so among the surviving

writings of ancient India. (Indeed, a non-specialist seeking a coherent picture of the Indian economy should read it, in R.P. Kangle's translation.) However, one should know that this is a work of prescription rather than description. It tells the king how he should manage the affairs of state, including the regulation of commerce and agrarian relations; it does not report actual conditions, as the unwary reader of Saletore's book is apt to assume. Beyond this, it would not be too much to ask of ancient historians to cleave to the maxim, "It takes at least two cases to generalize." Saletore's discussion of state price-fixing, surely a a matter of great interest, contains a particularly flagrant example of generalizing from a single source. Unlike the Roman practice, he tells us, in India state control over prices "extended to all commodities and made no distinction in its application to either localities or classes of people as it was of universal application" (456). I do not believe that the *Arthaśāstra*, on which it is based, supports so sweeping a statement; but in any case, other Indian sources that Saletore himself cites assume that merchants, not the king's men, put prices on their goods (e.g. Nārada, p. 439). Saletore's treatment of this subject in general brings out very well the strong urge for royal regulation of prices to protect the public interest, as well as the tradesman's, but he assumes a greater homogeneity in Indian practice from place to place, and a much more interventionist state, than the texts taken as a whole will support.

If one is well aware of these pitfalls — an overly generous dating of Indian sources that particularly affects the earlier ones, a tendency to prefer the *Arthaśāstra* to all other sources and to take its prescriptions as fact — the book certainly has its usefulness, used gingerly, as a convenient source of data. And it will be so used, whatever reviewers may say of it, for it is the only book of its kind and scope. More's the pity, for the truth is that although good monographic works exist, the economic history of early India as a whole has yet to be written.

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PARTNER IN EMPIRE: DWARKANATH TAGORE AND THE AGE OF ENTERPRISE IN EASTERN INDIA. ***By Blair B. Kling. Berkeley, University of California Press, 1976. Pp. xi + 276. $12.50.***

Reviewed by Ralph B. Price
Professor of Economics
Western Maryland College

Calcutta enjoyed a short period of less than two decades of indigenous economic development, a period when the dream of becoming a model of biracial participation was personified in particular by the innovative brilliance of Dwarkanath Tagore (1794–1846). Blair Kling traces the history of his meteoric rise to great riches through his brilliant and indefatigable creativity in the establishment of business firms to develop trade and industry in Calcutta. Through careful and thorough research and analysis, he also shows why failure to establish a trend of Bengali business entrepreneurship was destined to be the outcome of such a promising beginning. Where Bombay was to become a proud city run by indigenous industrialists, businessmen, and entrepreneurs, Bengalis

lost control of Calcutta through their loss of interest in commerce and industry.

Why would a Bengali Brahmin be the greatest Indian entrepreneur of the 1840s? Kling traces the history of the family to explore this question. The Tagores belonged to a degraded subcaste who had become polluted through some events in their family history. The family rose to wealth and prominence in the eighteenth century only through an intense desire for achievement to prove themselves to Bengali society. They became open-minded and formed business partnerships with the British, adopting in the process elements of Western culture. Ultimately, Dwarkanath was to be very much influenced by Rammohun Roy, the Hindu iconoclast, from whom he took over the leadership of the Bramo Samaj after Rammohun's death. Dwarkanath himself came into the family's wealth at an early age, mastering the laws of the British government as they applied to the land under the zamandari system. His ability to interpret the Indian market to Western merchants was a valuable service to them. Through inheritance of vast estates and the acquisition of more, by 1830 he was one of the wealthiest men in Bengal. Unlike many zamindars, he never subleased his estates but exercised direct control through a hired European manager.

At the age of 28 Dwarkanath was appointed to an administrative post in the salt agency, which he held for twelve years, allowing him to learn more about business management and to join with Britishers in joint undertakings. As a result, he was to form a partnership with William Carr to establish the leading agency house after 1830–1833: Carr, Tagore and Company. Already he had been a leading figure in founding the Union Bank. Kling recounts in interesting detail the part Dwarkanath played in these two institutions as well as his entrepreneurship through Carr, Tagore and Company in coal mining, tea growing, salt production, and steam tugboat operations and later in steam ships and railroads. Each undertaking is thoroughly documented and analyzed. Reasons for success or failure are developed through impressive scholarship.

Kling shows that Dwarkanath was a multidimensional man, hoping to play a role in building a multi-racial society in India. He used his wealth and influence to promote his concept of this society by both deed and example — in politics, business, philanthropy, and the arts. Unfortunately, Dwarkanath lauded the British rule at a banquet in his honor given by the Lord Mayor of London in 1841. This speech was criticized by friends and family in India as well as by members of the British India Society. He was always criticized by conservative Bengalis, who objected to his social behavior and politics.

The final days of the Union Bank and Carr, Tagore and Company are recounted with the same careful detail by Kling. Dwarkanath was on his second trip to Great Britain when the overexpansion of credit and the overproduction of indigo began to bring irreparable crevices in the Union Bank; ultimately the recession of 1846–47 was to bring down Carr, Tagore and Company. By the time of the fall of these two institutions Dwarkanath was dead, never having finished his second European trip.

As a final assessment of this great entrepreneur, Kling points to the fact that his enterprises were brilliantly conceived; that those that failed did so because of poor management. Carr, Tagore and Company spread itself too thin. Nevertheless, of the six joint-stock companies formed, four were very successful and are still in operation. Tagore's larger goal was always an Indo-British partnership. Kling concludes that this failed because he misread the British commitment to India; they never accepted a genuine partnership with an Indian. Their objective was to remit capital home, not to build an interracial society on an economic base in India. In the recession of 1846–1847, so many Bengalis were financially ruined through the unlimited liability provisions of the joint-stock company law that they turned back to investment in land, while their sons looked to religion, the arts, and professions for careers. The Indian business revolution in Bengal was over. Dwarkanath Tagore's own sons and grandson were to remain zamindars and had no interest in business enterprise.

This work is a major contribution to the history of the economic foundations of a movement that was to lead to Indian nationhood. Its exploration of the personality and character of a great entrepreneur and his successes and failures makes it an outstanding piece of business history.

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PRIVATE FOREIGN INVESTMENT AND ECONOMIC DEVELOPMENT: A CASE STUDY OF PETROLEUM IN INDIA. ***By R. Vedavalli. New York, Cambridge University Press, 1976. Pp. xvi + 222. $27.50.***

Reviewed by Dwijendra Tripathi
Professor of Entrepreneurial History
Indian Institute of Management, Ahmedabad

Analysts of Indian economic development have given rather inadequate attention to the study of specific industries. Petroleum, perhaps because of the intricate character of this industry, has attracted still less notice. The present work, therefore, is doubly welcome. Though R. Vedavalli's primary concern is to assess the impact of the Indian operations of foreign oil companies on India's balance of payment, her work also provides valuable insights into the behavior pattern of multinational companies in relatively less developed societies.

While presenting an essentially economic analysis of the private foreign investment in Indian petroleum industry, the author has surveyed the history of this industry in India in recent years. She has rightly pointed out that at the time of its independence, India was almost totally dependent on imports for petroleum products. Realizing the importance of petroleum for economic development, the government of free India decided to invite three foreign companies — Burmah Shell, Standard Vaccuum, and Caltex — to set up refineries in India on certain terms and conditions. The industrial policy announced by the new government clearly visualized all future developments in the field of oil industry to be the responsibility of the state, but it was beyond the resources of the government in the 1950s to set up oil refineries in the public sector.

Negotiating from a position of strength, the oil companies extracted extremely favorable terms from the Indian government in all possible aspects of the proposed refinery ventures, and yet their Indian operations enabled the government to save more foreign exchange than would have been the case if dependence on imports had continued. State-owned or state-controlled refineries would, of course, have been more advantageous for India, but these alternatives were hardly available to her in the 1950s.

Though Vedavalli nowhere clearly says so, her account undoubtedly implies that foreign private investment in the Indian petroleum industry would have been still more advantageous for India, had the structure of the international oil industry allowed greater maneuverability to the Indian government in dealing with the oil companies. The control of the vertically integrated giant oil companies over every stage of the industry, from exploration of crude to the marketing of petroleum products left little room for the Indian government to reap the benefits of price movements of crude oil and petroleum products or of decline in transport costs. Vedavalli did not have access to information about how the negotiations with the oil companies were conducted, who represented the government, and what these representatives' credentials were. But her account leaves no room for doubt that considerable naivete, if not complete ignorance, about the oil industry on the part of the Indian government made it an easy prey of the avarice of the oil companies. Naturally, therefore, the operations of these companies, or for that matter all multinationals, caused much fear and suspicion in later years.

The entry of the Soviet Union into the world oil market in the late 1950s and its offer of crude to India in the middle 1960s on very reasonable terms led to the establishment of state-owned or state-controlled refineries in India. The discovery of new sources of oil and successful explorations for oil in India gradually pushed the foreign oil companies to a defensive position and eventually to virtual extinction in India. There is no reasonable doubt that the future of private foreign investment in the Indian petroleum industry is bleak. Vedavalli concedes this point, but recommends, on purely economic grounds, the establishment of joint ventures with majority state control for exploration, refining, and marketing of petroleum products. Analyzed in the context of political realities, however, one can question the validity of this recommendation. After all it has always remained a cardinal principle of state policy in India to develop the oil industry in the public sector, and the early deviations from it must be considered nothing more than a helpless response to the then-prevailing economic realities.

It would be unfair, however, to judge the value of Vedavalli's book in the context of her recommendations alone. The real merit of this work is that it presents a penetrating analysis of an intricate subject and provides an excellent understanding of one of the key industries. She had to contend with the difficulty of obtaining reliable data in relation to a highly secretive industry. But in spite of this handicap, she has given us a work that not only scholars but also policy makers and administrators will find useful and rewarding.

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